The Builder.

No. CCLXXXVII.

SATURDAY, AUGUST 5, 1848.

WE followed the fortunes of the Archæological Institute in Lincoln and its neighbourhood last week, rushing here and there, as is the necessity on these occasions, by means of gigs, omnibuses, steam-boats, and railways (not omitting the gravel-truck expedition to Boston), for the purpose of laying before our readers, not a full and particular account of the whole proceedings, and even the names of all the papers read, but the pith of such of the communications as are likely to interest them in particular, and notes of various ancient buildings visited which have interesting architectural features. We have not space, for example, to report all that took place at the introductory meeting on Tuesday, but it would be unwise were we not to record some of the observations which were then made; tending, as they must, to induce the preservation of our architectural antiquities, to the improvement of modern buildings, and extension of good taste and feeling.

The Bishop of Norwich, when taking the chair, in order to yield it to his successor as president, Lord Brownlow, pointed out forcibly some of the advantages of such societies. All studies connected with taste, said he, all connected with art, may be considered as so many additions to the senses. Take the whole range of sciences—take astronomy, for instance. The astronomer—how far higher does he stand than the simple peasant, who views the stars but as mere bright spots in the vault of heaven; while the astronomer gazes upon them with higher respect—with increased veneration—for the great and good Being who called them into existence, and who holds the firmament, as it were, in the "hollow of his hand." Take again the art of painting. The artist walks along the fields, over the mountains, through the city and the plain, and sees objects, the beauty of which to those who are ignorant of the true effect of light and shade, is effectually hidden. Again, let us come for a moment to our own science—that of archæology; and archæology is indeed that science which awakens our attention to the study of subjects which are interesting for us to know as historians, as Englishmen, and as Christians. An archæologist, whichever way he turns his eyes, must derive satisfaction from what he beholds. Let an archæologist, for instance, look upon an old baronial castle, and how different are his views from those of persons ignorant of our craft, and who take little interest in the history of former days. The archæologist may indeed find

> "Books in running brooks,
> Sermons in stones, and good in everything."

"But, my lord," continued the bishop, "there is another point of view in which I may turn your attention to the pursuit of archæology. There have been objections made to it—we have been looked upon through the narrow telescope of prejudice—we have been considered as infringing upon ancient times—as desirous of reviving the practices of the dark ages. Now I repudiate that idea altogether—it is unworthy the Protestantism of the country—it is unworthy enlightened individuals. Let it be ours to cultivate a taste which shall benefit those who come after us, when we shall be looked upon as those of ancient days. When we look upon that splendid cathedral, how can we avoid admiring, respecting, and venerating those by whom that wondrous pile was reared. When we know what our ancestors have done, let us, who boast of a purer faith, advance with their faith—their zeal—their energy—to further the progress of religion by doing all we can to restore, renovate, and embellish our churches. I will boldly avow, and I am not ashamed to confess, that I am not a Tractarian; but I am a Tractarian, hand and heart, as far as introducing taste and embellishment can go towards renovating our churches. I see not why taste in all its branches—why sculpture—painting—those blessed gifts of God, should be cast aside when speaking of religion, and should not be used for embellishing the edifices used to God Almighty's glory: on this principle I adopt and advocate the cause of archæology. I could hope and trust that from the ecclesiology of the present day we may date the renewal of churches for which posterity will be grateful. We have seen, in looking back over the history of the last forty years, desecrations of the edifices dedicated to God. Now, instead of green, cold, and damp places—instead of that detestable architecture of lath and plaster, and bruised brick-bats, filling the tracery of Gothic arches, and making up and restoring the mullions of the most beautiful windows—I trust a better feeling is aroused, and that the age of lath and plaster and brick-bats is gone for ever. I have spoken of painting. I would introduce something better than the miserable white-wash which our modern churchwardens have hitherto been enabled to practise with. But, however, here also are the tares and the wheat. Had it not been for the whitewash, sure and persuaded I am that many a beautiful font—many a beautiful shrine—would have been mutilated and defaced."

Lord Brownlow pointed out that Lincoln possesses the only Roman archway still in use in the kingdom (a most interesting remnant it is); that there are also specimens of the Saxon times and the Norman times, and that the cathedral is second to none in the kingdom. Gothic architecture, observed his lordship, is the poetry of the science, and I never go into that cathedral but I look upon it as a religious epic, and that the chapter-house and shrines are so many cantos in the poem. The erection of edifices worthy of our religion is one of the good practical results which may be expected from the establishment of archæological associations. During many years, he observed, our churches had suffered much from bad taste, but he hoped that in future all who meddled with church restoration would take good advice, bearing in mind that they were working for future generations.

The Marquis of Northampton, in the course of his speech, urged that it was of the greatest importance, even in a utilitarian point of view, that good taste in architecture should be extended. New churches are rising all over the country, not before they are wanted, and it is desirable that our children, instead of being compelled to expend their money in alterations, should be able to devote it to the erection of new ones: he hoped that, good as the churches now rising generally are, twenty or thirty years hence they would be better still.

At this same meeting Mr. E. J. Willson, the veteran architectural antiquary, to whom Lincoln, where he resides, owes so much, read a paper on the Episcopal Palace, adjoining the Cathedral, the architectural portion of which we give *in extenso* on another page. After this and another paper had been disposed of, Mr. Willson took his audience to the palace for illustration of his remarks. Thence many of the members visited the numerous remains of the past, in which, as we said last week, Lincoln is rich. The Jews' House, a domestic façade of the Norman period, known to most of our readers; another Norman house near to it, in a less perfect state; the Norman building vulgarly called "John of Gaunt's Stables," and part of his palace, with its celebrated oriel of a later period; the Stonebow, or bar-gate; the very curious church, St. Mary's le Wigford, and the Conduit attached to the enclosure wall of the churchyard; St. Peter's, at Gowt's; St. Benedict's, and others, were examined. Of these three churches, which have some Saxon features, we may perhaps speak again on another occasion.

The chancel of St. Mary's le Wigford is early English, and the east end of it has two nice lancet windows with a buttress between them. These windows were blocked up, and plastered over inside, but on the occurrence of the meeting in Lincoln, they were opened and restored,—one good result at all events.

Several of the antiquities of Lincoln are threatened with demolition at no distant period. The High Bridge, a venerable relic of uncertain age, is scarcely equal to the wants of the times, and the Stonebow already alluded to (belonging probably to the early part of 16th century), which has the Guildhall above it, and spans the High-street, is often complained of as offering obstruction to traffic. It is to be hoped, however, that the endeavour will be successfully resisted, and other means found to remove existing inconveniences.

At a meeting on Wednesday morning, Professor Cockerell read a paper "On the Sculptures in the Presbytery of the Cathedral," which, on account of the height at which they are placed, have been overlooked. Mr. Cockerell said Lincoln Cathedral was rich in specimens of sculpture: in the frieze in the west end they had some beautiful works of about the year 1124; they had the kings in the front, representing the decline of sculpture, about the time of Edward III., and then they had the flourishing period exemplified in the sculpture of the south gate, and in the statues of Edward I., Eleanora, and Margaret of France. In the frieze in the west front, in the centre over the west gate, was the Saviour in the usual oval, surrounded by the four Evangelists, with St. Peter and St. Paul right and left. In the presbytery, in the spandrils of the triforium, there was some most interesting sculpture, which he looked upon as an epitome of revelation. It consisted of thirty subjects, fifteen to the north and fifteen to the south, and the whole was best described in the Epistle of Peter, where was set forth the dealings of the Deity with the human race. From these magnificent specimens of sculpture, he concluded that the sculpture of England was superior to the sculpture of Italy in the 13th century. He had been favoured with a view of copies of the finest sculpture in Italy, executed from forty to fifty years after the sculpture in Lin-

coln Cathedral, to which he had referred, and he would affirm that the Lincoln school of art was superior to the Italian. Another fact was that the sculpture in all their cathedrals proved that the work was executed by different hands: their styles were dissimilar, and it was clear to him that the work was executed by local men. The men of Lincoln embellished Lincoln Cathedral; the men of Salisbury, that of Salisbury; the men of Lichfield, Lichfield Cathedral, and so on. There could be no question that the figures were executed in workshops, and then affixed; and it was proved in Lincoln, where, in the case of one of the angels to which he had referred, the parts having been cut by different workmen, did not fit very well when put up and joined together. It was not to be supposed that the subjects were designed by workmen—they had not that knowledge of theology which would enable them to design such a chain of events; but the works were executed from the designs of churchmen, and were carried into effect by the local talent of the day.

A paper by Mr. Winston "On the Stained Glass of the Cathedral" was then read, the greater part of which we give on another page. Mr. Penrose (architect), "On the Proportions of the Cathedral;" Mr. W. A. Nicholson (architect), "On Tattershall Castle;" and Professor Willis "On the History and Description of the Cathedral" followed; but we shall not now refer to them, further than to repeat Mr. Willis's expression of regret, that in many of our cathedrals (Lincoln amongst the number), the CHAPTER-HOUSE, usually so picturesque and beautiful, is made a mere lumber-room; and we give an engraving of the chapter-house of the cathedral immediately under notice, which will shew its claim to consideration.* It is a decagon in plan, about 57 feet in diameter, and is probably one of the first of the polygonally-formed chapter-houses. One of the ten sides forms the entrance. In the other sides are nine windows. The groining springs, as may be seen, from a central shaft. The exterior has heavy piers, with flying buttresses to meet the thrust of the roof. It was built by Bishop Hugh about the year 1200.

An excursion was made on Thursday to the magnificent Norman church at Stow, the old Hall in Gainsborough, and the remains of a domestic building of the sixteenth century, at Torksey, on the banks of the Trent.

Stow, considered to be the mother church of Lincoln, is a particularly interesting structure: it is cruciform, and has parts for which a Saxon origin has been claimed. Eadnoth II., who died 1050, built a church here, which was rebuilt by Remigius, the first bishop after the Conquest, 1070 to 1092. If the body of the church be Remigius's work, as is believed, the great piers of the tower, at the intersection of the transept, and a part of the north transept, being manifestly earlier than the rest, *may* have formed part of Eadnoth's church. Sir Charles Anderson, to whom, by the way, the members are much indebted for attention and hospitality, laboured hard to prove this. Some efforts should be made to obtain the restoration of this noble structure.

The old hall at Gainsborough, with the adjacent buildings, has many points of considerable interest. The Hall, specially so called, is at present fitted up as a theatre: it has a good roof, and an oriel, and probably belongs to the fifteenth century. About fifty years ago some person was permitted to take away the sculptured corbels. The adjoining buildings are partly of wood, partly of brick, of a later date, and are in course of restoration for public purposes.

At the evening meeting, a paper "On the Geometrical Period of English Architecture" was read by Mr. E. Sharpe, the object of which was to establish a more minute classification of the styles than yet exists. He would distinguish the styles, after the transition-Norman, as—1, Lancet; 2, Geometrical; 3, Curvilinear; and, 4, Rectilinear; with the following chronology:—

Lancet	from A.D.	1190 to 1245
Geometrical	,,	1245 ,, 1315
Curvilinear	,,	1315 ,, 1360
Rectilinear	,,	1360 ,, 1500

We hope, however, to find space in an early number for the paper in full, the subject being an interesting one.*

THE SMALL-POX HOSPITAL COMPETITION.

IN pursuance of the statement in the printed instructions for the preparation of designs for the proposed new Small-Pox Hospital at Highgate-hill, that all the drawings would be submitted to two architects for their selection of five, from which the Committee would choose three for premiums, Mr. Sydney Smirke and Mr. John Shaw, were appointed to examine the fifty-five designs which were sent in. These gentlemen accordingly went through the drawings and made a report, which the Committee have adopted to the letter.

The following is a list of the successful competitors. No. 1, Mr. Daukes; No. 2, Messrs. Moore and Mathews; No. 3, Messrs. Hamilton and Medland. The first will carry out his design; the second and third receive respectively 100*l.* and 50*l.*

Mr. Daukes's design, like some others by the same gentleman, is a long building of the I form, with the principal entrance in the centre of the long front. The wards are chiefly on the first floor; the nurses' rooms are in the centre, so that one staff may command all the wards,—a point considered of great importance by the committee. The elevation is very plain, and makes little pretence to design. Rusticated quoins, simple dressings to the doors and windows, a balustrade on the wings, and a small campanile in the centre of the long front, are the salient characteristics. The materials, as required by the instructions, are to be brick and stone dressings; the cost is estimated at something over 12,000*l.*

As a guide in other cases, we may mention that the main building is required to accommodate seventy beds, with about 2,120 cubical feet for each patient,—being about double the space required in ordinary hospitals.

The design selected as No. 2 is very similar in arrangement to the last—so much so, indeed, as to present a singular coincidence. The style of this design is Elizabethan, and is better intentioned than set forth.

No. 3 is Tudor in character, and in plan is less extended; the buildings surround two inner courts.

A design marked with a circle, and another signed *Nil Sine Labore*, were selected as 4th and 5th by the referees.

Several of the other designs submitted were nicely drawn, and displayed considerable ability, but mediocrity was the prevailing characteristic. Amongst those which attracted our attention in the course of a hasty examination under disadvantageous circumstances, we may mention the designs marked "Spes," "Junius," "Dum Spiramus Speramus," and a set marked with a red seal.

The committee appear to have been actuated by a desire to do justice to all the competitors, and are entitled to praise for the course they adopted.*

SIR,—The competition for the Small-pox Hospital has been at length decided, and the committee have selected three designs for premium and execution.

In order to secure a decision at once advantageous to themselves, and fair to the competitors, the committee most wisely and most honourably deputed the task of selecting the designs to two professional men, supposed to be both unbiassed and competent to the office. It was moreover most expressly stated in the instructions furnished to the competitors, that the prizes would not be finally awarded, till the committee should have been satisfied that the designs so selected could be executed for the sum of 12,000*l.* So far so good; but on applying for my own drawings, I had an opportunity of examining those which had been selected, and I do assert that if any one of them is to be executed fairly and honestly, and of the materials specified in the conditions, viz., red brick and stone dressings, there is not one of them which will cost less than 25,000*l.* If I mistake not, the contents of any one cannot be less than 900,000 or 1,000,000 cubic feet, including lodges and out-buildings, and this with expensive dressings to windows, cornices, balustrades, and even columns.

Now, not only is it a most unfair test of the comparative merit of designs submitted under specific limitations, to put the cost of execution out of the question, but it will be in the teeth of the instructions furnished by the committee themselves, and it is but just towards the unsuccessful competitors, as a return for the expenditure incurred by them in money and professional time, to exact this condition from the successful architects, and require them to produce satisfactory calculations that their designs come within the limits of 12,000*l.*, or exceed it in a trifling degree only. The calculation in cubic feet will be the most easy method, both to calculate and to check.

Since the committee in their preliminary proceedings have acted with so much foresight and honour, I cannot but feel that it will be only necessary to suggest this step to secure their concurrence in its justice, and that they will postpone their final award till that point has been cleared up; while their own interest is concerned in the instance of the one to be executed, in not pledging themselves to the carrying out a design which will either exceed their means, or, in curtailing the expense, disappoint them when completed, either by defective arrangements or by an unsightly architectural character.

I will only add, that in making these remarks I intend not the slightest imputation on the committee, who have acted in a manner at once honourable and judicious, and one which I trust will be pursued in future competitions. In a case which occurred during the early part of the current year, the design which was at first selected being afterwards found very materially to exceed the sum named in the conditions, it was eventually rejected, and the other competitors again invited to submit their designs to another inspection; and should the same circumstances recur in the present instance, it will certainly be the most just, and perhaps, in the end, the most advantageous to the committee themselves to adopt this course.

ONE OF THE COMPETITORS.

August 1, 1848.

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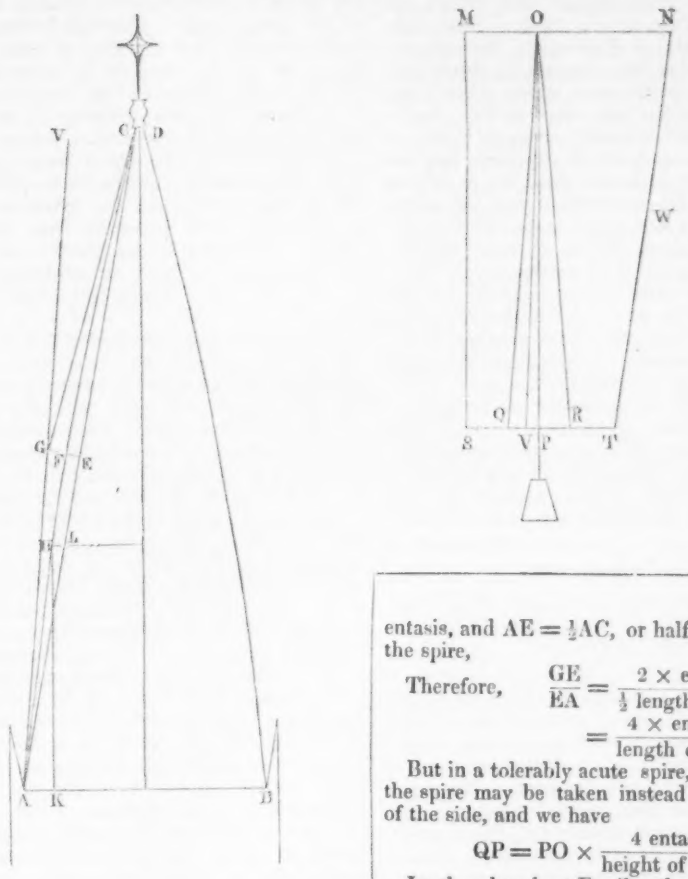
* See p. 378.

* The North-Western Railway Company professed to give members the advantage of return tickets, to extend over the whole time occupied in the meeting. We can scarcely believe that the directors of this important company were parties to the trumpery pretexts which were used by their clerks in various cases, to justify a non-compliance with the arrangement. We have four statements before us on the subject.

* A competitor, however, thus writes:—More than three months ago the committee issued printed instructions to those architects who were willing to compete, and I, with many others, made my design in strict accordance with the same. As I wished, however, for some little information which I considered I could best obtain at the present hospital, I went there a day or two before that named for sending in the designs, and obtained an interview with the house surgeon (Mr. Marson), who very politely gave me the information I required, and, moreover, invited me to look through some manuscript instructions, or what he called his idea as to what would be required in the new building. Upon inspection, I found these instructions had been written with as much intelligence as care, and to be clear and distinct in every particular (the reverse of the printed instructions issued by the committee); and I perceived at once, that as I had had the advantage of the printed instructions only, and that those who decided would probably take the manuscript as their guide, there was little, if any chance for myself, or for those architects who had not seen the latter."

We are informed, on inquiry as to this circumstance, that *all* who applied personally for the instructions were referred to the medical officer for further information.

ON THE ENTASIS OF SPIRES.



TO SET OUT THE ENTASIS OF SPIRES.

DEAR SIR,—The enclosed is an ingenious scheme for regulating the *entasis* of the spire, communicated to me by my friend Mr. Turner, of Hampstead, an accomplished mathematician: at my request he permits me to offer it to you. —I am, Sir, &c., C. R. COCKERELL.

July 21, 1848.

The principle upon which the plomb-rule I mentioned to you was constructed is as follows:—The side AFC of a vertical section of the spire is an exact circular arc. AEC is the chord. Let MSTN represent a plomb-rule so framed that the line OP, perpendicular to the base ST, represents the position of the plomb-line when the rule is set against the chord, or the centre F of the arc. Let, then, OQ represent the position of the line when the rule is placed against the base A of the spire, where the slope is least, OR its position at the summit C, where the slope is greatest. It is obvious, that if we determine, by calculation, the length QR of the scale through which the plomb-line moves as the rule is pushed up the face of the spire, and can divide the scale into divisions, which will give the proper position of the plomb-line at any assigned height, we shall have a rule which will serve to set every stone in the spire with perfect accuracy.

Now, it will be seen at once, that as the plomb-rule is pushed up the face of the spire, the angle which the plomb line (itself stationary) describes on the surface of the rule is, in in fact, the angle through which the edge NT (which is always a tangent to the spire) actually moves. In other words, the angle VGC, made by the tangents at the extremities A and C of the curved face of the spire, is equal to the angle QOR. So the angle GAE, which is half VGC, and which is the angle which a tangent at A and another at F would make with each other, is equal to the angle QOP. The similar triangles, QOP and GAE, give us therefore the following proportion:—

$$QP : PO :: GE : EA$$

whence $$QP = \frac{PO \times GE}{EA}$$

But the arc AFC being a very small part of a circle, GE = 2FE very nearly, or twice the entasis, and AE = ½AC, or half the length of the spire,

Therefore, $$\frac{GE}{EA} = \frac{2 \times \text{entasis}}{\frac{1}{2}\text{ length of side}} = \frac{4 \times \text{entasis}}{\text{length of side.}}$$

But in a tolerably acute spire, the *height* of the spire may be taken instead of the length of the side, and we have

$$QP = PO \times \frac{4\text{ entasis}}{\text{height of spire.}}$$

In the church at Ferriby, the height of the spire is 74 feet, the entasis 6 inches; and, for convenience sake, the length PO of the rule was taken at 37 inches, which gave $QP = \frac{37 \times 4 \times 6}{74 \times 12} = 1$ inch. The whole scale QP was therefore two inches.

The graduation (assuming the face AFC to be a circular arc) is very simple. For it results from that form, that as the plomb-rule is pushed up the spire, the angle which any two positions of the plomb-line on the surface of the rule make with each other, will be exactly proportional to the height through which the rule has been moved. If, therefore, on the same scale on which QR represents the whole height of the spire, QV represents the height, HK, of any point H, OV will represent the position which the plomb-line ought to take when the rule is set against the point H of the spire. In the rule used at Ferriby there was a division marked in QR for every 5 feet, beginning, of course, with zero at Q, and ending with 74 feet at R. In the same rule the side NT was slightly hollowed, so as to fit the curvature of the spire; but as the depression was only $\frac{1}{300}$ inch in the centre, W, this was a nicety perhaps scarcely necessary to attend to.

In the construction of the spire at Ferriby, the quoins were all set by the rule I have mentioned, the accuracy of the work being tested from time to time, both by trying the length of the diameter of the spire at the place where the working was going on, and also by dropping plomb lines from each side upon a base where the centre was marked, by which means any irregularity would be at once detected—but the rule was found of itself to make the work as correct as possible. The beds of the courses being horizontal, the angle, or bevel, at which the stones were cut, was varied slightly every 10 or 12 feet, so as to suit the varying rate of reduction in the length of the ordinates.

In calculating the ordinates, the following formula was used for determining the excess due to the entasis. Let h be the whole height of the spire, x the height Hk of any point H; e, the entasis, or FE; then we have $HL = 4e \times \frac{x(h-x)}{h^2}$ very nearly.

But the architect, Mr. Pearson, found that he got the ordinates very nearly true by a mechanical process, *i. e.*, merely taking a thin lath, and bending it to the extent requisite.

THOMAS TURNER.

CHARACTERISTICS OF ANCIENT GLASS PAINTING.

THE STAINED GLASS IN LINCOLN CATHEDRAL.

THE great rose or wheel window in the north transept of Lincoln Cathedral must be admitted to be one of the most valuable, and, at present, perfect works of the thirteenth century now in existence. The subject of the window is the Church on Earth and the Church in Heaven; and the greater portion of the original glass still remains in its original position. The whole central part of the window is occupied with a representation of the blessed in heaven, with Christ sitting in the midst. The sixteen circles which form the outer part of the window set forth the scheme of man's redemption, and the efficacy of the Church. It must be regretted that no engraving exists of this window: the want of accurate prints of entire windows being a serious obstacle to the study of ancient glass. One only of the subjects—the angels holding the cross—is given in Fowler's "Mosaic Pavements and Painted Glass;" but this is by no means an accurate representation, and is not to be compared with the excellent drawings made from other parts of the window by Mr. Willson, jun., of Lincoln. No other portion of the Early English glass is in its original position. The white patterns which fill the five windows immediately below the north rose clearly have been removed from other windows; and the same may be said of the contents of both the lowest north windows of the transept. In the westernmost of these two windows the figures of five angels playing musical instruments have been inserted. These are Decorated, and belong to the west window of the nave. Most of the glass in the southern rose is also Early English, and as well as that with which the four south windows of the transept are filled, has been collected from other windows. The lower light of the east windows of both the choir aisles is also filled with a collection of various pieces of Early English glass, amongst which are some medallions representing, according to Mr. Willson's opinion, incidents in the life of St. Hugh at Lincoln.

It is impossible not to recognise, in all these remains, those striking features which indicate the Early English style of glass painting,—such as the extraordinary intenseness and vividness of the colouring caused by the peculiar texture of the glass—the strength and thickness of the outline of the drawing, and which strength of outline was rendered necessary by the deep colour of the glass—the tallness of the figures, their vigorous and spirited attitudes, and the classical air of their heads—also the conventional character of their foliaged ornaments, which exhibit the bulbous form given to leaves in Early English sculpture. The north rose also exhibits the general principles of composition common to any Early English window which contains a number of pictures. Each picture, the design of which is usually very simple, is placed in a panel having a deep coloured ground, and a rich border. The panels themselves are embedded in a coloured ground. Very little but coloured glass is used, so that the window, in its general effect, is a mass of rich and variegated colouring, in which the tints of the grounds predominate.

Of the Decorated style of glass painting, hardly any remains are left in the cathedral; there are, however, some remnants in the Chapter House at Southwell—of the latter part of the reign of Edward I. In Lincoln Cathedral are also some fragments of the reign of Edward II.—in the tracery lights of the first window from the east, of the south aisle of the choir, and in one or two of the opposite windows. The east window of the choir has been deprived of its original glazing. It appears from a survey made of it a few years previous to the rebellion, that it contained the arms of many of the English nobility—a circumstance that leads to the inference that the original glass was Early Decorated, and not Early English, Heraldry not being commonly found in Early English glass.

The glass which fills the upper tracery lights of the west window of the nave of Lincoln Cathedral is *late* Decorated—a little later perhaps than the middle of the fourteenth century. The five angels already mentioned as

being in one of the windows of the north transept are of precisely the same date, and most probably formed part of the window. I think that the west window must have been a jesse window, judging by the forms of the foliaged scroll work still remaining in its head, and round the angels just mentioned. I ought to call your attention to a small piece of this foliaged scroll-work which has been inserted in the Decorated south rose window, near the bottom, on the east side; because the lightness of this glass when compared—from a distance—with the surrounding Early English glass, shows in a striking manner the difference in texture that actually exists between Decorated and Early English glass.

Of Perpendicular glass hardly any remains in the cathedral. Those small circles emblematic of the months of July, April, and March, have been inserted into the centres of the principal tracery lights of the east windows of the north and south aisles of the choir. A head in this light has also been supplied to the lowest of the five angels in the north window of the transept. At Southwell the remains of Perpendicular glass are equally scanty, being confined to a few late arms and other fragments in the west window of the nave.

The glass paintings, which have been executed within the last twenty years, are very interesting to those who hope to see a real revival of the art. It would, no doubt, be unjust to include all those works under one common condemnation, yet truth compels us to admit that even the latest of them, taken collectively, are far from being satisfactory, or worthy the cost which has been expended on them—except so far as they may be considered to have been the means of improving the skill of the painter and the taste of the public. They are, for the most part, servile and faulty imitations of other examples; and, like imitations in general, are apt to magnify all the defects of their originals without seizing upon any of their beauties. These evils are, I apprehend, in great measure owing to the narrow view which is usually taken of the subject; according to which the merit of a glass painting depends on the chance it possesses of being mistaken for an old one by ordinary observers. But a standard such as this, is calculated to foster only a low style of art. It unfortunately too often happens that the distorted drawing of a Gothic glass painting is such as to conceal the real art that exists in the work from the superficial observer; who is thus unable to distinguish the *sentimente* and feeling from the more marked and silent features which can easily be imitated; and thus is soon persuaded with a belief that those are the best modern glass painters who succeed in reminding him the most readily and forcibly of the striking colours of the old glass, and of the characteristic and conventional drawing, which last, deprived of all spirit and originality, quickly degenerates at best into what is called the Teaboardy Style—a combination of weakness and prettyness. Yet, considering the importance of the art as a means of decoration,—that in some localities, as in towns, glass paintings, even on account of their mode of execution, are better adapted for the embellishment of churches than oil paintings or frescoes—because they are not liable, as these are, to be injured by being washed clean from smoke and dust; and that that there is good ground for supposing that the full powers and resources of the art have hitherto been undeveloped; it seems only proper that the subject should be treated in a more liberal manner—that, in short, we ought rather to seek to carry out the art to its perfection, than to continue to practise it in its hitherto undeveloped state. Indeed, before we admit the principle of imitation at all, we ought to be satisfied in what respects ancient glass paintings are really fit subjects for imitation.

This question, to be fairly considered, ought to be considered apart from any prepossession in favour of Gothic glass paintings, arising merely from the respect due to antiquity, or from our always having been accustomed to associate them with the beauties of Gothic architecture. Any consideration of mere antiquity serves indeed but to embarrass the subject, which ought to be taken up, as it could be by a man of highly cultivated taste, apart from all questions of style and date. And it is in this way that, in all probability, it will be regarded some fifty years hence, when the present habit of viewing it in this manner will have passed away, and the man of artistic mind will not have the slightest perception of the anachronisms which would now offend us. The questions are simply these:—First, does that style of painted glass which, for instance, we call Early English, harmonize better with that style of architecture which we call the Early English, than any other style? And—if we think that generally speaking it does—then, is the composition of any Early English painted window such as to make it a fit subject for imitation? Similar questions will, of course, arise respecting any other styles of architecture and of glass, which we have hitherto treated simply as contemporaneous. These questions are replete with difficulties, and the attempt to resolve even one, besides being of a too speculative character to be generally interesting, would require a longer time than could or ought to be devoted to this paper. But, supposing that any particular ancient painted window, or class of windows, should be thought fit for imitation, another question arises—namely, whether we are able to imitate it successfully, and, if not, what is the best course to be pursued under the circumstances?

C. WINSTON.

THE COMPETITION DESIGNS FOR THE BUILDINGS IN SPICER-STREET, SPITALFIELDS.

DWELLINGS OF THE INDUSTRIOUS CLASSES.

IF, lately, we have said less than heretofore respecting an improved arrangement of residences for various classes, our opinion of the urgent importance of a better system of arrangement has not lessened. We have dwelt upon the evil which results to the great mass of the inhabitants of this "world of London," from the anomalous system continued to be practised, by which houses are built in all cases for the occupation of one family, instead of being divided for several, as in the great majority of cases they must be inhabited. We have not been writing for the benefit of those who dwell in Belgrave-square, or Portland-place, but for the great mass of the population of London, and for those of every calling in life, and every grade in society. If, then, the value of time and labour require that residences must be had in localities where, from the value of land and other reasons, it is impossible to get the unlimited use of a residence closed by four external walls and a street-door, obviously it might be expected that residences would be obtainable for every variety of tenancy, *but* that for which they are now always contrived, though hardly ever used. We will not waste ink in combating all the arguments that are current with certain opponents, who would think we would menace the foundation of all the social virtues, and unhinge the very framework of society. We dare say, too, it is much more agreeable to have a house to one's self, but the simple matter of fact is, that houses *cannot* be occupied as they are devised to be. The "100 carpenters, cabinet-makers, printers, engravers, clerks," and those of other occupations, who tenant the new Metropolitan Buildings in the Old St. Pancras-road, would, in almost any town in the country, have each one a house to himself: anywhere in the centre of London, it is simply impossible.

Houses, however, continue to be built upon the old mistaken plan, and it would not be difficult to indicate circumstances destructive of common comfort, most injurious to health, and of the most seriously demoralising nature. It has been said, we know, even lately, that the sanitary state of towns has had no influence upon the morals of their inmates; but were not the matter sufficiently patent, there are the most ample statistical data directly bearing upon the fact. If the improvement of the public health was of the immense importance ascribed to it by its principal advocates, there can be even less doubt that the most vital interests of humanity are concerned in that by which they are more nearly affected, namely, the condition of their dwellings.

If only as a pecuniary speculation, we have always urged that it would be desirable for builders to provide buildings for every description of occupancy, so that tenants, having the opportunity of choosing the description of residence suited to their habits, their occupations, and their means—none of which advantages they have at present—rents would be depended upon with much greater certainty, and house property would be the most valuable of all investments. The loss to landlords, from default in the payment of rents, must, under the present system, be most serious. The continual terror of the distraining for rent, which it becomes necessary for the landlord to hang over the tenant, cannot but be most injurious to the better nature of him whose self-interest requires the frequent exercise of that power; and the existence of the middle-men, more injurious than those of Ireland, who take houses for the purpose of letting portions of them at exorbitant rents, carries the bad influence into every class of society.

Little improvement in the comfort of dwellings can be expected, until it is shewn that to provide residences more conveniently arranged, with the requisite privacy, and with greater facilities for the supply of water and the disposal of refuse, is a profitable speculation; and whilst we have given credit to the Society for Improving the Condition of the Labouring Classes, for shewing, in the words of his Royal Highness Prince Albert, the means of "a most beneficial improvement in the domestic comforts of the labouring classes," we will ascribe to the "Metropolitan Association for the Improvement of the Dwellings of the Industrious Classes" the merit of having demonstrated in an effectual manner "that money invested in improving the dwellings of the industrious classes will yield an ample return on the capital invested." The buildings in the old St. Pancras-road have more applicants than can be accommodated, and there has not been a single default in the payment of rent. Each residence is here, in all essentials, a separate dwelling, being entered from the staircase landing by an outer door, and containing kitchen, scullery, sitting-room, and bedrooms, and other conveniences, with the most complete provision for the supply of water and removal of refuse. The rents vary from 3*s.* to 7*s.* a week, but the lowest-rented of the residences have greater conveniences than could be obtained elsewhere for a much greater amount,—and the association would have been able to receive a lower rate of rent but for the oppressive exaction of the window-tax, which, as usual, stands in the way of all improvement, moral and sanitary. But, notwithstanding the rents, there is an income from under 14,000*l.* expended,* of very nearly 1,500*l.* a year,—and this, too, notwithstanding an unaccountable prejudice which has been said to exist against these buildings, "amongst the class for which they were intended." It may be true that some prefer to live in dirt and discomfort, or where the dissolute habits and lawless life to which they have been accustomed, have become indigenous, and it would have been desirable to place these under the influence of social comforts, as well as to benefit those whose poverty obliges them to associate with the depraved. But it is precisely "the carpenters, cabinet-makers, printers, engravers, clerks," and others, that we and the association have in view, as well as others, to benefit; *these* are the individuals, and amongst them many whose earnings should command the *comforts* of a home,—many of education, and not destitute of all decency and sensibility, who are compelled to live in a manner entirely unsuited to them, and of which no account has yet been given, unless in a description of the cottages of some agricultural labourers.

We have, therefore, taken the utmost interest in the labours of the two societies we have referred to; and if we have not been satisfied with the apparent delay in the removal of the evils which had been so ably demonstrated by one of these societies, we are now happy to find the "Metropolitan Association" pursuing their object energetically, as well as with, we believe, a sincere desire for the public good.

The last step they have taken has been the purchase of a piece of ground in one of those localities in which their efforts may be particularly beneficial—the district of Spitalfields. A piece of freehold ground has been obtained,

* It is stated that the cost of these buildings was a considerable excess upon the estimate.

at a cost of 1,300*l.*, on which they are about to erect a dormitory, or lodging-house for 300 single men, and residences for forty families at the least; and they applied to six architects to send designs in competition. Five of these, only, answered to the call, and their designs were exhibited publicly at Willis's Rooms, on the Thursday, Friday, and Saturday, in last week. The competitors were Mr. Beck, Mr. Barnett, Mr. Grellier, Mr. Daukes (three designs), and Mr. Ricardo; and premiums were awarded, to Mr. Beck, 50*l.*, as giving the best arrangement for the lodging-house; and to Mr. Daukes the same amount, for the best arrangement of residences; as well as to Mr. Grellier, 25*l.*, for the second best arrangement of residences; and to Mr. Ricardo the same amount, for the second best lodging-house. Mr. Barnett received 20*l.*, the committee having stipulated for the possession of all the designs sent in. The designs are highly creditable to their respective architects, and particularly so considering the short time allowed for their production. Five weeks (too little), we hear, was allotted, which, it is said, one competitor —and not the least enterprising—reduced to five days. Next week we shall probably have space for particulars.

BOARD OF TRADE AND ART-UNION OF LONDON.

IN reply to the memorial recently presented to the Board of Trade by a deputation of artists, deprecating the interference of the Board with the London Art-Union, Mr. Denis le Marchant, on the part of their lordships, has addressed a letter to Mr. T. H. Illidge, one of the deputation, *withdrawing the proposed regulations as to the selection of the prizes by a committee.* As if the Board of Trade, however, had made up their minds to keep wrong in this matter, and to disturb, if it only can be by agitation, an important national association, they have now made a proposition, in an entirely different direction, which, if it were carried out, could not fail to do much mischief. They propose that prizeholders should be permitted to select for themselves, not from the exhibitions alone where the price is duly registered, but any work being in the possession of the artist at the time the selection is made, and not being a portrait, or to give commissions for works to be painted within one year! All the present arrangements of the Art-Union are made expressly to prevent the possibility of jobbing, and to afford the greatest stimulus to artists. The step proposed by the Board of Trade would remove all check, open the door to jobbing, and ultimately prove destructive to the society. The Board will surely not venture to insist on so unwise an arrangement.

The following is a statement of the number of works of art selected by the prizeholders of last year from each exhibition, and the amount paid:—39 from the Royal Academy, 2,188*l.*; 32 from the Society of British Artists, 1,109*l.*; 24 from the Free Exhibition, 650*l.*; 17 from the New Water-Colour Society, 550*l.*; 15 from the Old Water-Colour Society, 377*l.* 3*s.*; and 11 from the British Institution, 415*l.* Total, 138 works=5,289*l.* 3*s.*

MONUMENT TO CAXTON.—A correspondent writes, "what in the name of fortune has become of the project for the erection of a monument to Caxton in Westminster? Surely after so brave a commencement it cannot have been allowed to drop?" Perhaps one of the movers will favour us with a reply. There has been bad management somewhere. The steam which was got up at starting has not been turned to good account.

WOKINGHAM WORKHOUSE COMPETITION.—In reply to the advertisement for plans in competition for the Wokingham Workhouse, fourteen designs were submitted by architects from London, Southampton, Reading, and other places; and from these the guardians, under the sanction of the Poor Law Commissioners, have chosen a design by Mr. John Billing, of Reading, which is to be carried out under his superintendence shortly. Tenders for the building will be advertised for in a few weeks.

ON THE ANCIENT VILLAGE CHURCH OF LEIGHDELAMERE, WILTS.*

THE subject on which I am about to write, is one that may be considered of less importance in an *architectural* point of view than in an *archæological* one, viz., some particulars of an ancient ecclesiastical structure, which has excited the attention of several able writers and artists of the present day, and some of our most distinguished antiquaries. Even so late as the autumn of 1845, it was visited by the late noble President of the Royal Society, in company with the very Rev. the Dean of Westminster, and other savans, who were engaged in a sessional tour having reference to such objects. I allude to the village church of Leighdelamere in Wiltshire, which it has fallen to my professional lot to be lately engaged in restoring, and especially its bell turret, which has been held to be of peculiar interest.

In the first number of the *Archæological Journal*, a notice is given of this church; and in the second volume of THE BUILDER (p. 606) is exhibited a masterly illustration of this bell turret, from the pencil of a member of this institute (Mr. Richardson), to which I shall have occasion again to refer.

In the spring of 1846 I was called upon to survey and report upon the condition of the structure, and the practicability of repairing or otherwise restoring it. Upon a careful examination of the building, I found it to be in every part so thoroughly decayed and dilapidated, that an attempt to repair it would have been only to substitute piecemeal every stone in it, whilst the timbers of the roof were crippled and fractured in all directions, and the fittings (if such they could be called, that had no fitness in them) were in the most wretched condition that could be well imagined. I may observe here that the living had been held for *half a century* by a non-resident incumbent, which had not of course been favourable to its receiving due care and attention. That it had at one time been taken great pride in, was evident from many interesting points about it, and not the least was, that every thing which could be made of *stone* was so formed, and of the natural stone in its vicinity, viz., the great oolite bed: thus, it had, besides its turret, a stone *pulpit*, a stone *aumbrye* and *piscina*, and a once very handsome *reredos* in stone, to which I shall presently again refer.

Of the exact period of its erection, there is not to be traced any record, but it is identified in the parish books as dedicated to St. Margaret, though chiefly known as Leighdelamere Church. The name "Delamere" has had various derivations ascribed to it, some thinking that it came from the French De la mer "of the Sea," others that it arose from De la mere "of the Mother," and the latter derived some probability from the fact of an effigy of the Virgin Mother, which existed over the entrance door. But the mere general belief—indeed it has been traced by the present incumbent, the Rev. J. E. Jackson—is, that this church owed its foundation to one of the ancient English families, the Delameres, which, according to Dugdale, existed in the time of Edward I., and a branch of which was located in this county.

This brings us to the latter end of the 12th and beginning of the 13th century, about the period when, from its architectural features, it is reasonable to suppose this little church was erected. It is not unlikely that the family whose name it bore, had distinguished themselves in the Crusades, and founded this church in commemoration of their success.

It was one of those periods of which our great poet says—

> "When all the Christian world
> Did march one way—as far as to
> The sepulchre of Christ—
> To chase the Pagans, in those holy fields,
> Over whose acres walked those blessed feet,
> Which eighteen hundred years ago where nailed
> For our advantage, on the bitter cross."
>
> —*First part of King Henry IV.*

But to return to the characteristic features of the building, and first of its *bell turret*; it is peculiar both in the arrangement of its plan, in its style, and its construction. The plan is not an octagon, but a blunted square, placed diagonally with reference to the cardinal points, of which two of the salient angles rest on the gable over the chancel aisle, and two rest on corbels projecting from it, east and west, so as exactly to balance the incumbent weight. Then the formation of two out of the five pillars is most ingeniously contrived by a sinuous outline, to give relief to the whole with the least sacrifice of substantial material. The caps of the pillars are singularly formed, having, when analyzed, rather the structure of a carved frieze, such as we see in a more decorated period used as a crowning member in lieu of an embrasure.

A description of the turret will be found in a previous volume of THE BUILDER.*

The stone pulpit consisted of three sides of a hexagon projecting from the north wall, in the rear of which was a window, and on the east side of it were the remains of a doorway, leading to a rood loft: on one of the panels was carved, in raised letters, the date 1635. At some period this pulpit front had been shifted from its base; indeed the whole had been chopped and changed from its original shape, and a wooden cornice and book-board surmounted the stone one at the time I allude to.

The piscina and aumbry were formed by sinkings in the wall, both very small, the former being placed in the splay of the south window of the chancel, 8 inches high, and the latter in the north wall, 16 inches square, having a rebate for the oak door, of which there was, however, no other trace.

I must now speak of the reredos. Originally there had been an east window, the masonry of which, a triplet, still remained externally: this had been blocked up to make way for the screen in question. It consisted of nine compartments, viz., three large and six smaller niches. One of the larger ones was placed at each end and one in the centre: each had a canopied head and tabernacle work above them, —and all of them bore indications of having contained figures, when it must have appeared very handsome. I have supposed the smaller niches to be filled with statues of the Apostle, the two end ones of Moses and Joshua, and the central one of Christ, the latter more especially, as there existed a corbel above it, which exactly fitted the niche containing the Virgin and child before alluded to as existing over the entrance door, and had probably been removed thence to preserve it from the fate that had awaited the other statues.

In many other particulars this church was peculiar:—thus the three semicircular arches which divided the nave from the south aisle were of different diameters, all springing from the same level, and thus producing a gradual rise from west to east: thus the westernmost was 7 ft. 6 in. diameter, the next 9 ft., and the third 9 ft. 6 in.—whilst the rise from the floor varied in the same ratio, viz., 9 ft. 8 in., 10 ft. 2 in., and 10 ft. 8 in. I may also mention that instead of having a moulded cap of any sort the splays of the arches were so formed as to terminate in an octagon upon the circular shaft of the pillars, the spandrels being filled up by a leaf carved at each angle.

But there was yet one other feature of unusual occurrence, and the object of which I have not found any very clear solution of. It was a spiral stone staircase, at the west end of the nave, terminating at its summit with a stone doorway, leading on to the middle valley of the roof.

What could this be for? It was evidently not to clear the water-way! for this, besides being (as usual among the old church builders) of very ample dimensions, and having a bold gurgoyle to discharge the contents of the gutter, was so trifling in altitude that a single-story ladder on the outside would reach it. Then, again, the turret was built in so substantial a manner as to imply that it was for some purpose of very frequent recurrence, especially as it had its access from the interior of the church.

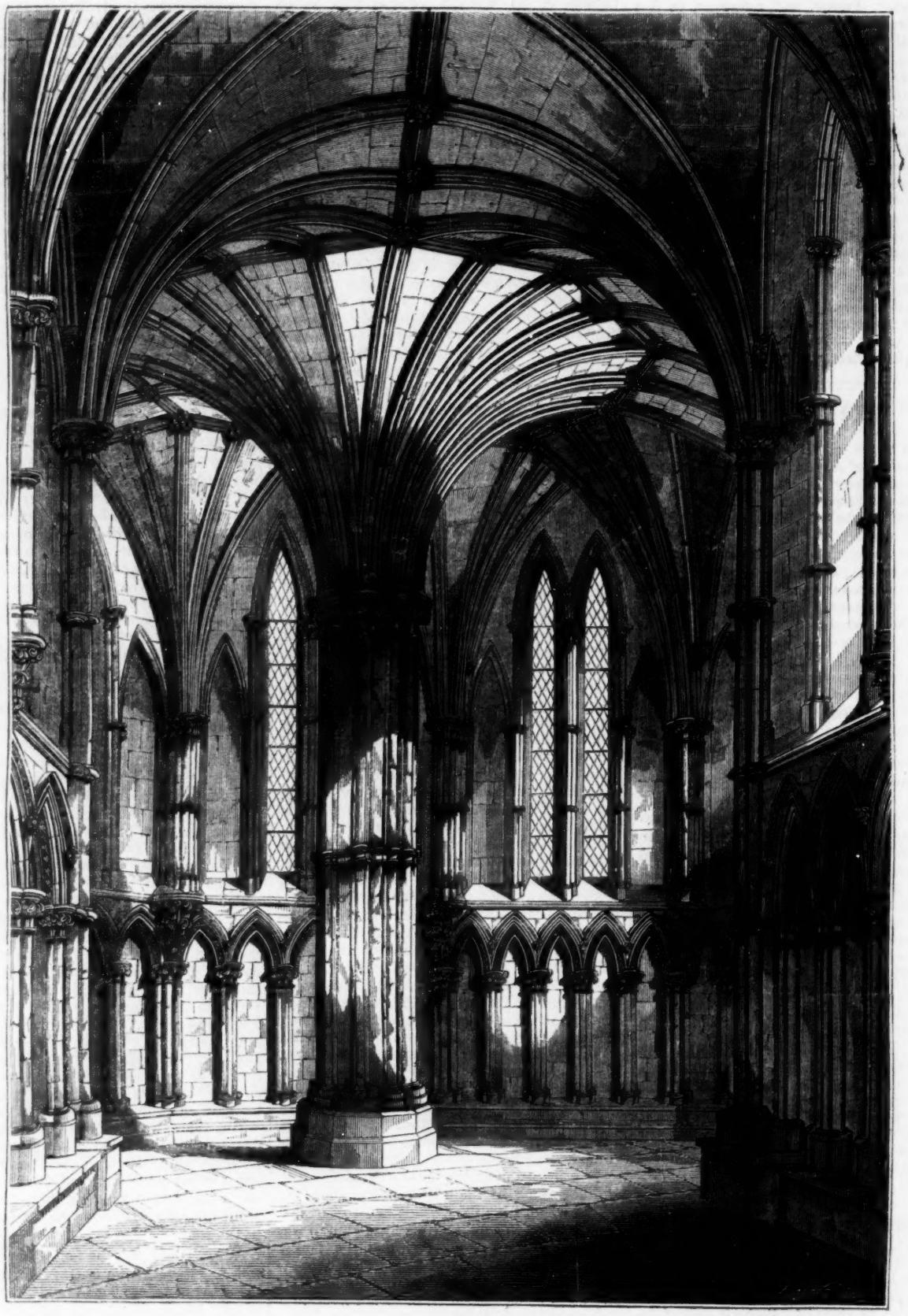
I was led to examine if it might not have some ostensible connection with the bell turret, and it did so happen that the south-west corner of that erection (and the only one that was accessible from the roof) had a peculiar formation of the tabling or coping stones, being so hollowed out as to afford a good footing for

* Read at a meeting of the Royal Institute of British Architects, previously referred to.

* See Vol. II. p. 606.

INTERIOR OF THE CHAPTER-HOUSE, LINCOLN.*

CIRCA 1200.



any one to step upon, whilst the other three sides shewed a strait and continuous line with the gable. I have, therefore (in the absence of a better suggestion) been led to consider that the turret was formed for the use of the sacristan in early times to toll the bell for public service, and the more so, because if it was not done in that way, there appeared no other method except the clumsy one in use in later times, of having the bell-rope dangling down through the roof into the body of the church, when the ringer, at the time I speak of, performed that duty.

I have now mentioned the chief points of this very interesting little structure, and as that which had existed for several centuries has now become but a matter of history, I felt it due to posterity to take of most parts of it accurate dimensions. Of the restorations it would not become me to speak, except to observe, that no expense has been spared by the patron of the living (Joseph Neeld, Esq., an honorary member of the Institute) to render the building worthy of the best days of its predecessors. Whether that which has been done has been done judiciously or not I am alone answerable; but as in a restoration of a varied style of building there must be some difficulties, I may be permitted to say that the course I felt bound to pursue was this,—I found that I had to deal with a work, the product of several ages, from simplest forms down to the latest decorated; and although it would have been

* See p. 374, in present number.

CARVED PANELS OF THE RENAISSANCE PERIOD.

much easier to adopt any one of those styles (say Early Pointed, for instance), yet in doing so I must have sacrificed the restoration of the *early* semicircular arches, as well as the elaborate features of the *later* periods, as in the reredos. I therefore resolved to preserve in the new building some record of whatever was most interesting in the old one; thinking that if, in so doing, I should lose something in the way of *unity* in the composion, I should gain much in picturesque effect by the variety of forms which would thus (as in other more important ecclesiastical structures) become grouped together. That course has been acted upon, and although some enlargement has taken place by adding a new aisle to the church, and forming a crypt beneath it, it has not been allowed to interfere with preserving to after times the lineaments of its time-worn, time-honoured, and venerable parent.

I may just be allowed to mention that I am at this time engaged in the erection of a school-house, formed out of the architectural remains of the old church, every stone of which I had marked as it was taken down, so as to be re-articulated. By this course it is hoped to preserve to a yet distant period those features which had acquired some repute in our time, and prove to posterity that the builders of the nineteenth century are not unmindful of the value of the works of their predecessors.

James Thomson.

The Vernon Collection and the National Gallery.—In order to relieve Mr. Vernon from the disturbance of his privacy, caused by the present arrangement, which opens his house to the public, the trustees of the National Gallery have determined on clearing out the lower rooms of their side of the building in Trafalgar-square, and hanging this noble collection therein. They have likewise accepted two pictures by Taddeo Gaddi, offered to the nation by another liberal individual. The behaviour of the Government towards Mr. Vernon has scarcely been such as will lead many others to follow his example. They ought, on the instant, to have made him a baronet, and then discussed how, properly, to express the national appreciation of his munificent gift.

CARVED PANELS OF THE RENAISSANCE PERIOD.

The two panels engraved are from a series which are fitted in a door in the private residence of Mr. Francis Gibson, at Saffron Walden, in Essex. They are valuable as giving the date of their execution, and as affording fine examples of a peculiar style of ornament that is often more *bizarre* than elegant. What their original location may have been is not now known; they were probably imported from the Low Countries.

DESCRIPTION OF THE BISHOP'S PALACE, AT LINCOLN.

Passing the beautiful remains in Bishop Alnwick's tower, we come to the great hall, which stands nearly in the centre of the whole area. The Parliamentary surveyors have left us this description of its state in 1647:—"The greate hall is very faire, large, lightsome, and of stronge freestone buildinge, in goode repaire, being sixty foote of assise in breadth, and ninety foote of assise long. The forme of buildinge consisteth of one large middle allye, and two out iles on eyther syde, with eight gray marble pillars bearinge up the arches of freestone in the forme of a large church, having large and faire freestone windows, very full of stories, in paynted glasse, of the Kinges of this land. The fire is used in the middle of the Hall; the roofe of very strong tymber, covered all over with leade. The proportion of yt is much lyke the body of Christe Church in London."

"This of ytself (by dividinge of yt) might make a dwellinge howse with all convenient roomes for use."

The porch, as we are also told, had a fair chamber over it with a chimney. The great bay window at the upper end of the hall was undoubtedly added by Bishop Alnwick (1436-49), the few remains that were found of its mouldings corresponding exactly to those of his other works. This noble window was totally destroyed, and even its basement was covered by a range of stables, built in the time of the Commonwealth, which extended from the great porch at the south end of the hall to the turret stairs at the north end. This building was removed by Mr. Mainwaring: he also opened the windows of the hall, which had been entirely walled up. It seems probable that only the upper half of these windows were originally glazed, the lower lights being closed by boarded shutters, as was the case in many ancient halls and other apartments. In winter time the shutters would be constantly closed to keep out the cold air, and perhaps hangings of tapestry extended over the openings. It seems likely that the lower parts of these windows were walled up by Bishop Alnwick when he built the bay window and set up the portraits of the Kings of England in stained glass, with legends in Latin verses, and many coats of arms, of which descriptions are still extant.

The six pillars of dark grey marble which sustained the roof are totally gone, but some fragments of their bases and capitals have been found, which shew that each column consisted of a central pillar, with four smaller and four longer round shafts attached to it,—the whole height of these pillars being about 20 feet, divided into two parts by central bands. The responds or half-columns at each end of the hall are partly remaining; these rest upon projecting corbels. Two of the three doors with pointed arches, at the south end of the hall, opened into two pantries; and that in the middle, into a passage which communicated with the kitchen. Over this passage, and the pantries on each side of it, was a spacious room, to which you ascended by a turret staircase at the south-west corner of the hall, and the chamber over the hall porch was entered by the same stairs. This room, which I take to have been the great chamber—an ordinary appendage to the hall in ancient mansions—had two tall windows in the south front, with a fire-place between them, and there were two other windows at the east and west ends of the chamber. The roof being a continuation of that over the hall, was supported by two stone arches, resting upon corbels of marble, and rose up in the centre to a lofty ridge. Returning to the hall, we find, from the survey, that the passage under the great chamber was flanked by two larders, over which a flat roof of lead extended from side to side, under the windows of the south front of the great chamber. The kitchen had five fire-places, of which the back walls, faced with tiles, are still standing: that in the south-

west corner of the kitchen is deeply recessed in a circular form, and is very spacious. The roof of the kitchen was of timber, covered with lead, and rose up to a great height in the centre, in the form of an octagonal pyramid. Passing again from the hall, we come to two doors communicating with Bishop Alnwick's tower. The larger one opens into the vestibule, which is very neatly vaulted with ribbed arches. Opposite the hall door is another which led by an arched passage towards the chapel. The survey describes the chapel as "very faire, with seates and many other convenience, and very faire painted glass windows." From other accounts we find that the windows contained many coats of arms, as well as figures of saints, and Latin rhymes recording its dedication, by Bishop William Alnwick, to the honour of the Blessed Virgin Mary. At the west end of the chapel were two floors of rooms, containing a study, with a lobby on the lower floor, and a withdrawing chamber, with a closet-pew looking into the end of the chapel, on the upper floor. These apartments communicated with the chamber over the vestibule in Bishop Alnwick's tower, over which was another chamber. All these buildings were constructed with the nicest regard to convenience, and the mouldings and details of the doors, windows, &c., are particularly elegant. An engraved view of the north front, by Nathaniel Buck in 1726, gives a pretty good idea of these buildings, as they had been left by the Parliamentary tenant in 1660:—a tiled roof with garret windows on its side had been put over the chapel in place of the original lead covering—the tower was disfigured by a similar addition, which is seen above the battlements—the chapel windows were divided into two heights, in order to suit the two stories of rooms which had been formed within it—the bay window over the door of Bishop Alnwick's tower was then entire, but its three lights appear to have been blocked up—its projecting basement, which has since perished, was sculptured with the royal arms of France and England in the centre, with those of Bishop Alnwick on one side and of the see of Lincoln on the other. The inside of this window, and the walls of the chamber to which it belongs, bear deep traces of fire, the walls having been made red hot; but we know nothing of the time or other circumstances of this fire. The lofty gable at the south end of the hall range was yet standing with two very high pinnacles at the sides, and a third in the centre, which formed the top of the chimney in the great chimney. Several other high chimney shafts were also standing which are now levelled. Passing through Bishop Alnwick's tower we enter into a narrow court, having the great hall on the west side and a range of buildings on the east, in which was an apartment called in the survey the "Little Hall," with a large dining-room beyond it, and further on a chamber called the study, which extended to the south-east corner of the palace. Under the chapel was a private dining-room or parlour, the front of which looked into an inner court, and had a bay window projecting from the centre. There were pantries and cellars, with closets adjoining to this room, and winding stairs communicating with the apartments in the upper stories. At the lower end of the court stood a brick building, which contained the lesser or privy kitchen, and the pantry, with a well very near to them. Under the lesser hall and the adjoining rooms were three large vaults yet standing, of which the uses can only be conjectured. They are all roofed with semicircular stone arches, and the biggest apartment has a large fire-place on the west side, and has been lighted and ventilated by small windows on both sides placed very high: it has also a well at the upper end in an arched recess: perhaps this vault may have been originally a brewhouse. On the west side of the middle court at the lower end is a flight of stone steps, very steep, ascending to the great kitchen. Beneath the kitchen is a room which is described in the survey as a brewhouse.—The vaulted roof has fallen in. It evidently had a column in the centre; and, from certain marks on the walls, the original form of the arched roof, and also the entrance, must have been altered by some of the ancient builders. Opposite to this building towards the north is the principal cellar which formed the basement of the south end of the hall range, being under the great chamber and the two pantries, to which there was an ascent by stairs in the south-west turret. The roof has been vaulted and groined in a bold and good style with large moulded ribs springing from corbels. The south end of the hall range was separated by a space of 13 feet from the kitchen, and the communication between the two buildings was made by an arched vault, or bridge, as it may be fairly termed, and which was a passage from the hall to the kitchen, with two larders on its sides already noticed. The arch of this bridge is groined in the centre, and is decorated with moulded ribs somewhat similar to those in the great cellar. All these lower parts of the buildings shew an early style, very massive and judiciously proportioned to their purposes. The west side of the vault under the kitchen bears marks of alteration made subsequent to its original construction. There were two, or perhaps three, blank arches in the wall, sharply pointed, and resembling others on inside of the vault, but not corresponding in breadth. These blank arches are partly covered by two great buttresses, one of enormous thickness. The biggest buttress, as well as some other parts of the buildings, have been patched with brickwork, which material may have been employed for the sake of economy when Bishop Williams repaired the palace in the reign of Charles I. Westward from the kitchen there appears to have been a range of buildings that probably extended as far as the western wall of the palace, and might have been offices belonging to the kitchen department. These buildings, however, appear to have been taken down before the Parliamentary survey was made, as they are not described in it. The court where these two buildings stood, which now forms a flower garden, lies on an intermediate level below the principal court and the modern mansion on the north, but overlooking the gardens towards the south, where is now a terrace supported by a high wall with handsome buttresses built by Mr. Mainwaring. The south-front of the kitchen buildings, which rise to a great height on that side, is strengthened by two noble buttresses, built with Ancaster stone, in fine large courses of masonry: these buttresses are evidently of later date than the original buildings, and perhaps were erected by Bishop Burghursh in the reign of Edward III. In the upper court we may notice that the south end of the modern house stands upon some remains of ancient buildings. The Parliamentary survey describes it, "A range of stone buildinge called the officers' lodginges with a little stable at the end under, being built upon the pallace wall upon the west syde thereof towards the cittie, conteyninge 8 bayes of building, and consisting in all of roomes and chambers over and garrets in the roofe, beinge 12 roomes." These officers' lodgings stood upon ground occupied by the present mansion. The gateway in the western wall of the palace, a little beyond the north end of the house, was only modern, and is now blocked up. The arch of the original entrance through the great wall which forms the boundary between the Bail—or to speak more properly, the close—and the palace, may still be seen. This was the gate for which King Henry the First granted a licence to Bishop Robert Bloet. It is a plain semicircular arch, not six feet wide, and is buried in the mound at the base of the wall up to the springing. Nothing can be seen of this gate on the north side of the wall, it being below the surface of the ground; but from some remains of ancient fire-places, it seems that there were rooms and chambers adjoining to the close wall in this part. We may also notice that this gate stood exactly opposite to the great porch of the cathedral, called the *Galilee*, which would be the ordinary entrance into the church when the bishop came from his palace. In later times, when the eastern gate of the palace was formed, the bishop's entrance into the minster would usually be through the beautiful porch on the south side of the presbytery.

E. J. WILLSON.

THE SUSSEX ARCHÆOLOGICAL SOCIETY will meet at Lewes on the 10th inst., when a large attendance is expected. The Bishop of Chichester will preside.

NOTES IN THE PROVINCES.

THE Leicester market-place improvements are progressing with the demolition of buildings behind the Exchange, which a correspondent of the *Leicester Journal* proposes should itself be taken down, and adjoining a high wall, to be built for the prevention of frontage, that an awning like that at the railway station should be erected, with a couple of steps for ascent, and the corn-market to be held there.——The Isle of Portland Government works are still in rapid progress. The prison will soon be completed, with its appendages, the bakehouse, hospital, &c. About 960 hands are now employed in finishing the various departments about the prison.——At the Plymouth breakwater quarries, last week, with a charge of 1 cwt. of powder, placed in a hole in the rock 18 feet deep, 1,000 tons of limestone rock were blasted at one blast, without accident in firing. A man was six hours engaged in the operation, and was seven times pulled up to the top of the quarries before the fire took effect. Vast improvements have been effected in the mode of blasting limestone rock at Plymouth since these quarries were first opened in 1811.——A public fountain is to be erected in the centre of College-green, Bristol.——Mr. Charles Williams, a builder in Half-moon street, Bath, has been found guilty of defrauding the Bath Water Works, by supplying four houses in Wellington-place with water for more than twelve years, while renting and paying for the water of four adjoining houses. The magistrates mulcted the defendant 1*l.* in each instance. ——The lowest tender for the erection of the new infirmary in connection with the Union workhouse at Warwick was from Messrs. Branston and Gwyther for 1,550*l.*; the next that of Mr. W. Green, of Leamington, for 1,568*l.*; and the other three were Mr. Hart's, 1,613*l.*; Mr. G. Whitehead's, 1,643*l.*: and Mr. Webb's, 2,250*l.* The advertisement in the local papers stated that applicants were to send in the names of two sureties for the due fulfilment of the contract, and Messrs. Branston and Gwyther having omitted to do so, conceiving it to be unnecessary, as they should require no money until the completion of the building, the tender of Mr. Green was received by a large majority.——The new Presbyterian church in Broad-street, Birmingham, the first stone of which was laid on Monday week, is to be built from a design in the Italian style, by Mr. Botham, of Birmingham, architect. The plan is a parallelogram, externally 99 feet long and 47 wide, with a tower at the principal front end, next Broad-street. There will be accommodation for 640 persons, including a gallery for 260 at the lower end, but exclusive of side galleries to be ultimately erected. The light is to proceed entirely from the roof, so as to exclude annoyance from the adjoining thoroughfares. The interior will be plain and simple. The tower is to be 110 feet high in four stories, with a bell domed roof. The cost is estimated at 2,960*l.* Mr. William Bradshaw, of Birmingham, is the builder.——In accordance with the announcement of Mr. Hartley, the surveyor of the Liverpool Dock Estate, five of the new docks in progress at the north end of the town have recently had water admitted into them, with their basins and adjunct passages; and vessels will be permitted to enter in course of a few days. The foundation-stone of these works was laid without ceremony, and the opening now, as effected by the entrance of the first vessel, will also be unattended by any ceremonial. The various docks have been named, and apportioned to the different classes of vessels which they are intended to accommodate; and the additional water space which their opening will render immediately available amounts, we believe, to an area of between thirty and forty acres.—— In Manchester and its vicinity there are only 139 churches and chapels, while in New York, with about the same population, there are 215.——The new Catholic Church of St. John the Evangelist, at Salford, will be dedicated and opened on the 9th inst.——Keighley new parish church, erected from designs by Mr. R. D. Chantrell, is nearly completed, and will be consecrated on 11th inst. Its style is perpendicular Gothic of 15th century. The chancel has stained glass by Willement. —— The fund for erecting a parish

church in Hunslet is on the increase——The extensive works for the new docks at Sunderland are proceeding in the most rapid manner. The sea has been banked out of the tidal basin, and nearly the whole length of the large dock; and the undertaking, it is thought, will be completed, by the contractors, Messrs. Craven, on the plans of Mr. Murray, the engineer, within the time fixed, and within the estimated cost.——The church of St. Lawrence, at Winchester, is about to be made more fit to receive the stained glass window contributed by Miss Littlehales (noticed in the 280th number of "The Builder") by having the walls fresh stuccoed in the interior, repewing the greater portion of the church, altering the present ugly gallery, opening the tower arch, restoring the font, removing the cumbrous deal altar screen which at present hides a great portion of the east window, and by having a new pulpit and reading desk: the large east window will be restored previous to having the stained glass placed in it. The architect employed is Mr. John Colson, of Winchester.

RAILWAY JOTTINGS.

A NUMBER of trucks, loaded with large timber balks, steeped in a combustible preparation of coal tar, &c., took fire on Thursday week while on their way, at the Box station, to a branch of the Great Western, in forming which they were to be used, by the contractor, Mr. Hennet. With difficulty the blazing mass was got into a siding, and fire-engines set to work for an hour and a half; but nearly 50 tons of the timber, besides the trucks, were consumed, and the loss is estimated at 3,000*l.* to 4,000*l.*——A case regarding payment of wages, which is of some importance to contractors and to the labourers employed by sub-contractors or others, has been decided at Forfar differently from some previous decisions elsewhere. An Irish jobber absconded with 70*l.* to 80*l.*, paid him for work done by Messrs. Stephenson and Co., and without paying out of it the poor men employed by him at weekly wages. The sheriff decided that Messrs. S. & Co. were not liable either in law or justice for wages due by the jobber to his own servants.——A new turn-table, on an improved principle, has been invented by Mr. Turiff, one of the proprietors of the Vulcan Foundry at Paisley. The *Ayr Observer*, in describing it, says: "The engine and tender, which weighed 36 tons, were placed on the turn-table; and two men turned it, by means of two wheel-pulleys, with comparative ease, in the most incredibly short time of about a minute and a half. There was not the slightest jar while the movement was proceeding: on the contrary, the carriages rested on the table as softly as if they had been on cushions. The great advantage of this invention of Mr. Turiff's is, that with former turn-tables there were two frictions, while with this table there is only one: it is relieved by a powerful weight resting in the centre, which contains four large bolts that lift the table from the side-rails beneath. The machinery, like all inventions of practical use, is very simple, but composed of massive beams of iron, and can be worked by circular rollers in cases of emergency. The turn-table itself is 36 feet in diameter, weighs 25 tons, and sustains 51 tons revolving weight."——Mr. Samuel Cunliffe Lister, of Manningham Hall, Bradford, has taken out a patent for so applying air, either by compression or by exhaustion, as to act upon the wheels of railway carriages simultaneously as a powerful break. To each carriage is to be attached an air-reservoir, or tank, of sufficient strength to sustain a pressure of 50 to 60 lbs. on the square inch. This reservoir, or tank, will be charged with compressed air, or exhausted of air, by means of an air-pump, actuated in any convenient manner. In connection with each tank a pipe communicates with a main pipe, extending beneath the framework of each carriage lengthwise, and midway between the wheels. From each side of this main-pipe there extend branch pipes, communicating with cylinders, suitably fixed between each pair of wheels at the side of the carriage: each cylinder is fitted with two pistons, working air-tight, and piston-rods, furnished with break-blocks. Instead of the middle of the block being in a line with the centre of the axle, however, the bottom of the block is in a line with it. Now assuming the pressure of the compressed air in the main tube, or pipe, when filled, to be 5 lbs. on each square inch of the piston, and each piston to present a surface of the area of 200 square inches, there will be a force of 1,000 lbs. exerted upon each piston, pressing the break blocks against the peripheries of the wheels; and this pressure will take place simultaneously in all carriages comprising a train, upon the guard opening a valve for admitting the compressed-air to pass from the reservoir, or tank, into the main pipe, by which the impetus of the train will be suddenly checked. Instead of employing compressed air, a vacuum may be formed in the main tube, and the pressure of the atmosphere be allowed to exert itself upon the other side of the piston—the end of the cylinder being left open for that purpose.

UNIVERSITY HALL, ST. PANCRAS.

ON Thursday, the 20th ult., the first stone of the "University Hall" was laid. This building is being erected by the Unitarian body, as a grand central institution for the residence and religious instruction of the youth of that denomination. The present edifice will accommodate about thirty students, who will attend the general classes of University College, which is contiguous to the Hall, and to which there will be an immediate access in the rear; but the religious instruction will be given within their own walls. The site is in the centre of the west side of Gordon-square, St. Pancras, and we understand that the Duke of Bedford has, with very great liberality, allowed the council the opportunity of purchasing, within a certain period, the fee-simple. Mr. Cubitt, who has the improved rent, has afforded every facility to enable the college to redeem that also, so as to render it completely free. The following is the inscription, written in the sunk panel of the slab:—

UNIVERSITY HALL,
This Stone was laid
XX July MDCCCXLVIII,
By MARK PHILIPS, Esq., Member of the Council.
The Rev. Philip Le Breton, A.M., Chairman of the Building Committee.
Francis W. Newman, B.A., Principal.
The Rev. David Davison, A.M., Secretary.
Thomas Leverton Donaldson, Architect.
John Jay, Builder.

The building will have seven stories in height. We understand that the elevation is in the florid Tudor style, and will be constructed of red brick and stone dressings. The central object is a tower with a projecting bay window, and flanked by octagonal turrets, which are surmounted by crocketed pinnacles in stone; and these turrets are repeated at the ends of the façade. The whole height from the pavement of area to the summit of the pinnacles will be 92 feet. The extreme width of the frontage is 100 feet. There will be a central entrance hall, with a groined ceiling; a dining-hall and library, each 36 feet by 27 feet; a council-room, 25 by 23 feet, all of them 20 feet high. Each student will have a sitting-room, 15 by 12 feet, and a bed-room 12 by 10 feet. When the building has been occupied by its full number, the council contemplate erecting a cloister and additional chambers behind in the ample open space in the rear, so as to increase the accommodation for thirty more students. The staircases and passages are to be of stone, and a general system of heating and ventilation will render the whole as a residence comfortable and complete. The cost of the present building will be 10,000*l.*, and when the additional buildings at the rear are completed the total expenditure will be from 16,000*l.* to 18,000*l.*

CHURCH OF ST. BARNABAS, SOUTH LAMBETH.—The foundation stone of this edifice was laid on 27th ult. The design on which it is to be built, is by Messrs. Clarke and Humphreys, and is in the early English style. The estimated expense of its erection is 5,000*l.*, of which about 2,000*l.* have been realised. The site is at the junction of the South Lambeth and Clapham roads.

SHOP-FRONT ARCHITECTURE.

FREQUENT as are the opportunities, and great as seems to be the solicitude, on the part of the occupiers of shops to render them as striking and attractive as possible in point of decoration, there is, in reality, very little of either novelty or variety of shop-front architecture:—scarcely a dozen different examples can be pointed out in the metropolis of any particular merit for their design. This is certainly not owing to excess of economy, as many are got up regardless of expense. Nevertheless such is the case; nor is it at all to be wondered at when the generality of tradesmen universally begrudge, if not their money, the requisite space for architectural design. So long as the greatest surface of window is made a *sine quâ non*, it is hopeless to look for propriety of architectural character, either as regards front of house, or architectural decoration in shop front. The whole of the lower part of the elevation becomes in appearance a mere gap, without piers, or any visible support to the mass above, which produces an effect as if the glass sustained the whole weight. In some instances the door jambs are not seen, and at the return of a corner the window is continued without any interruption of a support of any kind at the angles. There is nothing susceptible of decoration, except the bressummer or horizontal lintel above the window, which, if treated architecturally, like an entablature, occasions another offensive solecism and palpable defect, there being nothing for its support as before mentioned, but the mahogany or metal bars between the several sheets of plate-glass.

Neither is the effect very much more satisfactory where Grecian Doric columns or pilasters are used, as at present, viz., one on each side the door, and one at either extremity of front, as in many cases the openings are many feet wider than the length of the columns; and according to the indication of the style, there would necessarily be three or four other columns between, as every tyro in architecture well knows, agreeably with that order: the columns were seldom more than a diameter-and-a-half apart, and sometimes not so much. Of course such a close intercolumniation, or any approximation to it, would be utterly impracticable in a shop-front, but then why should a style be employed merely for the purpose of being mangled.

Something might be attempted, if only experimentally, and the successful instances would be so much pure gain, were they only as hints for something still better. G. J. R.

New Books.

A Descriptive Atlas of Astronomy and of Physical and Political Geography, embracing the latest Information and most recent Discoveries in Astronomical and Geographical Science; with descriptive Letter-press. By the Rev. THOMAS MILNER, M.A. London: Wm. S. Orr and Co. 1848.

THE design of this work, as the author announces, "is to furnish the student and general reader with a book of reference in geographical and astronomical science, conveying information, copious and trustworthy, both as respects the maps of the terrestrial and the celestial world, and the explanatory text by which they are accompanied." And certainly the great and rapid progress which these sciences have recently made does justify the production of a work in which the knowledge accumulated by members of our learned societies, and by public as well as private expeditions, appears to be excellently well arranged, condensed, and popularised, for behoof of the general reader. Each monthly part contains three very fine quarto coloured and other maps, selected from the physical, political, and astronomical series, with eight pages of descriptive letter-press, full of illustrative cuts of a superior order, at a price (1*s.*) which we really would have conceived to be less than "the lowest consistent with correctness and elegance of engraving." The letter-press, like all else about this much desiderated compendium, is unobjectionable. One circumstance, however, within the compass of the four parts now issued, we regret to observe in connection with one of the most recent,

and by far the most splendid of recent astronomical discoveries, namely, that the name of our countryman Adams is studiously omitted from all association with the discovery of the great centrifugal planet Neptune. Surely it was not for nothing that Government honoured him with its more physically-substantial notice in the shape of an annuity. The brevity of a compendium can scarcely be pleaded: for even Sir John Herschel's poetical allusion to its probable advent, finds a place where Adams's more laborious and erudite calculations, therefore, ought to have at least been also recognised. One more remark our limits may allow us briefly to make, not by way of objection, but as strikingly illustrative of the singular fact, that astronomy,—the science of the solar system at least,—one of the most perfect, it was thought, and most matured, of sciences, is only yet in the midst of the most rapid progress towards a more complete maturity: the remark referred to is that although every new discovery appears to be in process of incorporation into this work down to 1848, a further discovery (if not two) must hereafter be intercalated with the account, already incorporated, of the successive discoveries of the asteroids, a new one (if not two) having even since been added to the number that were really discovered down *to* 1848. Both author and publisher, we repeat, have great credit in the getting up of the present useful and interesting compendium and conjunction of our general knowledge, physically and architecturally speaking, both of heaven and earth.

Correspondence.

PERMANENT COLOUR FOR DAMP WALLS.

SIR,—You will oblige several of your readers if you can learn for them what is the best preparation to use for the purpose of colouring cement walls, where there may be some damp still remaining. The building in question is a tennis-court, the interior walls of which must be *black*, and the colour should *be fast*, otherwise the white balls are dirtied and spoilt. Several coats of oil paint were applied last summer, but they never dried properly, and in damp weather the paint comes off. If you can suggest any mode by which the walls can be effectually blackened in spite of some damp, you will confer a favour on several gentlemen interested. PAUMIER.

Pall Mall, July 25.

Miscellanea.

COKE IS CRYSTLETULAR DIAMOND.—Mr. James Nasmyth, of Bridgewater Foundry, Patricroft, near Manchester, has tested, as it were, and proved the fact, of the identity of diamond and coke, by the discovery that the minute laminated crystals, or crystlets of coke, are capable of cutting glass with the true diamond clearness of cut, or without merely scratching. No other *setting* too is necessary to prove this fact, than the crumbling consistency of the coke itself in mass, so that a fragment of coke, switched at random across a pane of glass in the sunshine, is sufficient to exhibit not only the depth of the clear cuts, but the prismatic colours in all their purity and beauty. Ground to impalpable powder, Mr. Nasmyth, as intimated in the *Mining Journal*, has found that coke constitutes what we may call the true "diamond paste," for sharpening razors,—probably, indeed, if we may venture to say so, the only secret of the diamond pastes so largely advertised, if they merit even so worthy a supposition. The adamantine properties of black oxide of manganese, and its peculiar affinities, induced an ingenious chemist to suggest *its* strong analogy to carbon: is it possible that it, too, when in fragments—much more firmly crystalline as it is in mass than coke—may cut glass with *practical* facility?

LINCOLN LUNATIC ASYLUM COMPETITION.—We understand that the architects, to whom the magistrates of Lincoln have awarded the first premium, and entrusted the erection of the County Lunatic Asylum, at Lincoln, are Messrs. Hamilton and Medland. Mr. Nicholson, of Lincoln, obtained the second premium.

THE CHANCELLOR'S CHEESEPARINGS.—Referring to the article under this head, quoted in THE BUILDER, on the withdrawal of the annual grant of 150*l.* to the Newcastle School of Design, the *Hull Advertiser* says,—"It is less the individual case than the principle here proposed to be acted upon that fills us with indignation as we contemplate this miserable attempt at economy. Why should the pruning-knife be first applied to Schools? Why is the pension list spared? The hypocrisy of a saving which looks only to the perpetuation of national ignorance, while it overlooks the enormity of a hereditary pension list, is disgraceful to any Ministry. Nor are the people such dolts as not to perceive this; nor so indifferent to the insult offered to their understanding as not to resent it; and very deeply too. They see that they are mocked instead of being relieved; and the wrong rankles the deeper because they have no means of resenting it. Such mock pretences to national economy as the above will fill the public mind with indignation, and prepare it for the reception of the doctrines of a class of teachers very different from such gentle and soul-inspiring enthusiasts as Mr. W. B. Scott,"—and, carrying out the writer's own idea,—for the institution, he might have aptly continued, of a class of *Schools* of *Design* of a very different order from the innocent and praiseworthy ones they have begun to suppress. That prompt remonstrances have already stirred up 'second thoughts,' however, there is reason to believe, although "to confess that they have erred is hardly to be expected from a Government," as the *Gateshead Observer* remarks. "The reply to the local memorial, however, amounts pretty nearly to such a confession. Parliament, the respondents say, cannot be asked to reverse the decree that has already gone forth, and renew the grant in the present session; but if Newcastle can make out a good case before the annual vote of 1849, perhaps it may be retaken into Government favour. Newcastle should be grateful!"

THE PAROCHIAL CHURCHES OF SIR CHRISTOPHER WREN.—Mr. J. Clayton, architect, has announced a work, in three parts, to contain plans, elevations, and sections of the parish churches built by Wren. The projector remarks justly, that "the architectural works of Sir Christopher Wren, the ornament and the constant boast of our metropolis during nearly two centuries, have been but very partially illustrated by delineation and engraving; those works only which challenge the great monuments of Europe having been laid before the public, with such pains and honour as are so justly due to them. But his minor works, which have been no less the study and the admiration of the professor, and of far greater practical utility to the student and the builder, are catalogued only in the Parentalia, and the treasure of knowledge which they contain has been entirely confined to their portfolios." Such a publication is now imperatively demanded, not only from the deterioration which many of these works are daily suffering from injudicious alterations, but also from the actual removal of several by the enlargement and changes recently made in the city improvements. If efficiently executed, it can scarcely fail to succeed.

VALUE OF MINERAL PROPERTY.—Mineral property on the hills, which, when the Monmouthshire Canal and its tramroads were constructed, was only worth 5*s.* an acre surface rent, soon increased in value to 1,500*l.* an acre, or more, underground. The area of the Monmouthshire coalfield exceeds 89,000 acres, and the various seams of coal that can be profitably worked are said to average 50 feet, which produce a gross yield per acre of nearly 73,000 tons. The total quantity now worked annually is estimated at about 2,200,000 tons; at which rate there is a sufficient supply left for the next 1,500 years. The net quantity available for export has been estimated at about 3,000,000,000 tons! Great Britain now annually consumes from all her collieries about 21 million tons.—*Cliffe's Book of South Wales, second edition.*

THE SUSPENSION-BRIDGE OF PESTH fell on 18th instant. A ring of one of the chains broke, and the chain fell on the bridge, which sank beneath the weight. Several lives are said to have been lost.

PROJECTED WORKS.—Advertisements have been issued for tenders, by 10th inst., for the erection and completion of buildings at Shoreditch workhouse; by 14th, for the erection of a manufactory; by 12th, for the erection of two cottages near Leicester; by 11th, for a supply of 3,000 cubic yards of broken granite, or other hard stone for roads, at Whitehall, &c.; by 9th, for lighting part of Hampstead with naphtha or other spirit lamps, furnishing and repairing York or patent lamps with reflectors and burners, &c.; and by a date not specified, for 500 tons of temporary rails, 30 to 40 lbs. per yard, with chairs, at Liverpool.

A MONTH'S NOTICE TO WORKMEN.—In the railway carriage-spring trade of Sheffield, which, from the "peculiar whims and fancies" of the engineers and Companies giving orders, may be called the fancy spring trade, and in which, from the like whimsical causes, so much irregularity exists, that no stock is worked up, and the workmen are specially engaged on piece-work, with the understanding that they may either get or give the most off-hand notice to quit,—a hand who had been hired on time-work for a year, on its expiring quietly mixed with his piece-work comrades, in place of giving notice of the expiry, and request of the renewal, of his time, as was usual; and having thus inadvertently managed to be recognised as still a workman, but without the ordinary mutual engagement as to piece-work, has been found by a local magistrate to be further entitled to a month's notice, and an equal share of piece-work for a month, along with the comrades amongst whom he so cunningly, but it would appear justifiably, no less than to himself profitably, intermixed. Mr. Henry Wilkinson was the magistrate, John Longley the workman, and Mr. J. Brown, of the Sheaf Works, his employer.

PREPARATION OF TIMBER.—The experiment of Payne's Timber Preserving Company to test the capability of Paynised wood to resist the destructive agency of flame, already mentioned by us, was repeated on Wednesday, at the Company's wharf, Whitehall, in the presence of a number of scientific men. Two wooden structures, the one Paynised, the other built of timber in its natural condition, were exposed to the flame of about 7 lbs. of shavings. The unprepared building was rapidly consumed to the water's edge: the other, after repeated trials, remained unscathed, the charring effectually arresting and suffocating the flame. The importance of this is very obvious.

BLIND BUILDERS.—The following, says one of the competitors, is a list of tenders delivered at Hornton-street Chapel, on Wednesday in last week, for Horbury Chapel, Kensington, Mr. S. Tarring, architect. The quantities were furnished!

Lawrence	£5,870
Trego	4,760
Little	4,382
Bird, Hammersmith	4,319
Haynes	4,220
Holland	3,999
Higgs and Son	3,866
Piper and Sons (accepted)	3,592

[Advertisement.]

TO THE EDITOR OF THE BUILDER.

SIR,—Several columns of your last two numbers having been devoted to the exposition of experiments upon cements, the manufacture of one house alone, we trust that you will oblige us with space to remove an impression that may naturally arise from them, respecting the strength or value of Roman cement in building works. We do not desire to speak merely on behalf of our own commodity, but to show that the article, when properly manufactured, is capable of widely different result from what your paper has recently exhibited; at the same time we have no wish to detract from a new article which several parties are advertising in your paper, and which ourselves have had repeated and peculiar opportunities of making, under the patent, but which, for reasons that we need not particularise, we have declined to do.

The experiments published on 15th inst., were made on the premises, under personal superintendence, and at the cost and trouble of Mr. Henry Grissell, of Regent's Canal Iron Works, City-road; so also were experiments with ours. They were intended for a very different purpose than mere advertisement, and it is a singular circumstance, that they should have prematurely got into print, although they would doubtless have appeared in your journal another time in a different shape.

Two blocks of cement of equal size having been submitted to a hydraulic press, Portland cement bore 56¼ tons—Roman cement went to atoms at a pressure of 27 tons. Roman cement should not have done so, and therefore we arrive at the conclusion from these experiments that one of the materials was of an inferior description. We take the following from your publication—

	Tons pressure.
Portland Cement, scaled at 22¼ tons, was gone at	56¼
Roman Cement (price stated 1s. 3d. per bushel), broken up	27

And we wish to compare it with the authorised statement furnished to us by Mr. Grissell, and which we shall be happy to shew to any one.

	Tons pressure.
Roman Cement, Nine Elms, ordinary quality, cracked	28
Ditto, ditto, crushed	35
Ditto, Nine Elms, first quality, no effect until slightly shelled	45
Ditto, ditto, crushed	47

It is, therefore, not necessary to enter into calculation to shew which is the cheaper material, whilst the consumer knows the relative prices of Portland and Roman cement. We have but one remark to make upon Portland cement: the strength of that material was acquired at the age of thirty days; Roman cement would have stood its same trial probably at the age of thirty hours. Colonel Pasley, in his laborious work on cements, tells us that lime would do the same if it had time enough, but we conceive it to be the great merit of Roman cement that it attains its strength, that is to say, that it *sets rapidly, and should hold fast for ever*.

We fear to trespass too much on your space in one number, but, with your permission, we will, in your next, refer to the second series published on 22nd inst., although we observe, by-the-way, that these experiments are not stated to have been made under inspection of Mr. Grissell, or of what other authority, or if they were merely private.

We are, Sir, your most obedient servants,
CHAS. FRANCIS and SONS.
Nine Elms, 29th July, 1848.

TENDERS

For the new Congregational Church and Class Rooms, Reading; Mr. W. F. Poulton, Architect. Quantities supplied.

	Church.	Class Rooms.
Carter (Reading)	£2,050	£424
J. and R. Wells (Reading)	2,025	435
Samuel Cooper (Reading)	2,032	429
Cooper and Sons (Maidenhead)—accepted	1,903	378

For addition to the Camberwell Workhouse; Mr. T. W. Plum, Architect.

Monday	£2,930
Cooper	2,814
Stephenson	2,750
Vote	2,730
Burtenshaw	2,695
Thompson	2,691
Simmonds	2,678
Willis	2,674
Rider	2,629
Wells	2,612
Cooper and Davis	2,610
Spikings	2,535
Taylor (Regent's-park)	2,498
Taylor	2,490
Coleman	2,473
Curtis	2,429
Willson (accepted)	2,294

For new house and premises at Milton-street, City, for Messrs. Morrison, Dillon, and Co.; Mr. J. Stevens, Architect.

Laurence	£2,094	0
Piper	2,050	0
Haynes and Son	1,997	0
Glenn	1,992	0
H. Burton	1,935	0
Brass	1,921	0
Waller	1,774	17

TO CORRESPONDENTS.

"*J. C. F.*" (Armagh).—Thanks for good opinion. We shall be happy to look through the MS.

"*Competitor*" (Three of them): "M. M.," "S.," "B. A." will find notice in present number.

"*O. O.*"—If our correspondent will send his name and address we will advise him.

"*G. W. Y.*"—We also have had many inquiries, but do not propose giving any opinion.

"*Clericus*," "*B.*," "*Safety*," "*F. B.*," we cannot advise.

"*J. E.*"—The document sent was known to us, and it is alluded to in our article, though not specified.

"*K.*"—The article on the new Houses of Parliament replied to by us is now stated to be by the Earl of Lovelace. We do not know the fact.

"*O. C. A.*"—We have several times recommended the ventilators named.

"*G. T. J.*" will find that similar remarks have already appeared in our pages.

"*W. C. H.*" has been anticipated.

"*A Subscriber.*"—Apply for information as to laying out grounds, to Mr. Lamond, writer, 29, St. Vincent-place, Glasgow.

"*Architect*" (Sunderland).—Ditto. The Act may be obtained at the Queen's printer's, New-street-square.

"*Received.*"—"M. W.," "J. A.," "W. J., jun.," "H. A." (thanks); "F. G.," "E. A. H.," "R. P. C.," "W. H.," "O. P. A." (we will endeavour to call, but have little time); "F. H. N.," "A Subscriber," "S. P.," "W." (Hampshire); "Irish Architect," "R. H.," "J. P.," "An Architect," "B. and H.," "G. W."—"Outline Views of Beverley Minster," by John Johnson, Architect: Day and Co., Gate-street, Lincoln's-inn-fields.

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

REDUCED PRICES.

WILLIAM CLEAVE, of Wilton-road, Pimlico Basin, begs to acquaint Builders and the Trade that he has now on hand, at his Manufactory (the first of its kind ever established), a very large Assortment of Dry and Well-seasoned FLOORING BOARDS and MATCH BOARDING of all sorts, from ¾ inch to 1¼ inch thick, planed to a parallel width and thickness, and at greatly Reduced Prices. Also, Timber, Deals, Oak Planks, Scantlings, Sash Sills, Moulding prepared by Machinery, Laths, &c.

Apply at W. CLEAVE'S Flooring Manufactory and Timber Yard, Wilton-road, Pimlico Basin, late C. MOORE and SON.

A REDUCTION in the PRICE of FLOOR BOARDS.—ALFRED ROSLING begs to inform the Trade and Commmers generally, that he has REDUCED the PRICE, and keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, lined to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship.—Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

T. ADAMS (late S. DARE), MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Bricklayers' Arms. SEASONED FLOORING, MATCH-BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery, Cut Deals and Scantling of every dimension, Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Pantile, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense (except timber). Sawing charged at mill prices. Very extensive Drying Sheds.

MUIRS PATENT PLANING MACHINE.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.
N.B. Estimates given for Sawing and Planing.

WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENTED PROCESS, at the Patent Desiccating Company's Establishment (for Seasoning, Sawing, and Planing Wood), at the Grand Surrey Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe. The new process ensures the entire removal of moisture, hardens the gums, prevents further shrinkage, and strengthens the fibre.—For scale of prices, or license to work the patent, or any further information, address, post-paid, or apply to W. H. TANQUERAY, Secretary.

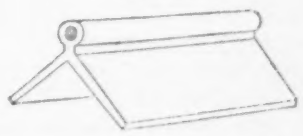
The Patent Desiccating Company's Offices are REMOVED from 23, New Broad-street to No. 41, GRACECHURCH-STREET, CITY.

ENCAUSTIC, VENETIAN, BATH, and other PATENT TILES, and MOSAIC PAVEMENTS, may be obtained in great variety at MINTON and Co.'s Warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge; and at their Manufactory, Stoke-upon-Trent, Staffordshire.—N.B. Slabs and Tiles for Fireplaces, plain and ornamental; Door Furniture, &c.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK and TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their improved Brick and Tile Machines, which are to be seen at work at Alperton, and at the Company's office, 193A, Piccadilly, from Ten a.m. to Five p.m. Mr. Robert Scrivener, who has been appointed manager in the room of Mr. John Ainslie, will show the machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, London, 193A, Piccadilly.—March 1, 1847. These machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill's, 135, Buchanan-street, Glasgow; Mr. Robert Charles', Mill-hill, Leeds; Messrs. Penny and Finch's Penkridge, Staffordshire; Messrs. Drummond and Son's, Dublin; and Mr. John Connor, Newton Lindvady, County Derry.

No. A 6.



No. 7.

Wings, 6½ to 7 inches.
Rolled in London, 6½d., and at Tunstall, 5½d. per foot.
Rebated in ditto, 6d., and at ditto, 5d. ditto.
Plain in ditto, 5½d., and at ditto, 4d. ditto.

ILLUSTRATED TRADE LISTS GRATIS, containing much information useful for reference, also Testimonials respecting a MATERIAL which, when well wrought is probably superior to every other for drains or conduits, for ridges, hips, valleys, and every part of roofs, for plain or chequered paving, for erecting sea-walls and other strong works, &c. To be had GENUINE of THOMAS PEAKE (proprietor of "Peake's Terro-Metallic"), No. 4 Wharf, City-road Basin, London; also, at the Tileries, Tunstall, Staffordshire. Articles would be supplied to any extent, and dispatched to any part of the world. The lists contain prices by measure as well as by number. Letters to be prepaid, and to say if the London or Staffordshire prices are wanted.

PAPER-HANGINGS, CHEAPEST IN LONDON.—Builders, the Trade, and Country Dealers, may select from a Stock of 20,000 Pieces, of the newest designs, French and English Bedrooms, 3d. per yard; Satins, 3d. per yard; Flocks, 6d. per yard. Patterns for approval sent in town or country; and Goods forwarded free of expense. A large discount allowed on taking a quantity. Panel decorations, flowers, or oaks remarkably cheap. Terms, cash. Established twenty years. W. CROSBY, 21, Lowther Arcade, Charing Cross.

PAPER-HANGINGS, MANUFACTURED UNDER HER MAJESTY'S ROYAL LETTERS PATENT.

E. T. ARCHER, 451, Oxford-street, so-Invites an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the extensive range of apartments, built expressly for that purpose; where also is kept an extensive stock of every variety of Paper-hangings, at the lowest possible price and of the best manufacture, in English and French Designs, by the best Artists; and where may be had a large assortment of French and other Continental Paper-hangings always on hand.—Builders and large Consumers are particularly invited to the above.—451, Oxford-street.

By Her Majesty's Royal Letters Patent.

BAILLIE'S PATENT ROUNDED RIM LOCKS, WITH SECRET AND SECURED FIXINGS.

THIS CHEAP and USEFUL ARTICLE obviating the unsightly appearance and insecurity of the common rim lock, can be obtained from the Manufacturers, Messrs. CARPENTER and TILDESLEY, Willenhall; or from the sole Agent, Mr. JOHN FAULKNER, Ironmonger, 62, St. Martin's-le-Grand, London, opposite the new Money-Order Office.

T. PUGH'S REGISTERED RIM LOCK.—T. PUGH and Co. beg to invite the attenton of Architects, Builders, and others, to these new Rim, Draw-back, and Dead Locks and Latches, in either brass or iron, possessing great advantages in form, over the usual Rim Lock, and also in the quality, and produced at very moderate prices; each lock is warranted perfect and complete, with patent shifting spindles.—To be had only of T. PUGH and Co., 13, King-street, Snow-hill, City, at their Ironmongery Warehouse, where they keep an extensive and most complete stock of hammered and cut nails, iron and brass foundry, mortice locks and latches, plain, half-rabbeted, and rabbeted; porcelain, glass, ivory, buffalo horn, wood, and all kinds of fancy mortice lock furniture; all goods of the best manufacture, and of the same superior quality they have been accustomed to send out for upwards of the last twenty years.

TO ARCHITECTS AND BUILDERS.

CHUBB'S WROUGHT-IRON and FIRE-PROOF DOORS and FRAMES, for strong Rooms. A large stock of the above, of all sizes, made in the best manner, and of different strengths, fitted with CHUBB'S PATENT DETECTOR LOCKS, throwing from two to twenty bolts, constantly on sale, at very moderate prices. FIRE-PROOF SAFES of every size, and Patent Detector Locks and Latches for all purposes.—C. CHUBB and SON, sole Manufacturers, 57, St. Paul's Churchyard, London.

PRO BONO PUBLICO.

CAUTION to Purchasers of FIRE-PROOF DOORS for Strong Rooms, Safes, Chests, and Detector Locks, &c. &c. LEADBEATER, many years manufacturer for Chubb.

LEADBEATER begs most respectfully to inform Architects, Surveyors, Builders, &c., that he can supply them with IMPROVED DETECTOR LOCKS for universal purposes. STRONG WROUGHT IRON FIRE-PROOF DOORS, SAFES, and CHESTS, &c., on the most improved principles of security against FIRE and THIEVES, without the aid of "expensive machinery," which is employed by some inexperienced makers, but must be paid for; at prices 25 per cent. under any other house in London.

LEADBEATER offers ONE HUNDRED POUNDS reward to any person who can pick his improved detector locks or latches. Some thousands of Leadbeater's strong-room doors and safes have now been put up without a SINGLE COMPLAINT, and fifteen years' practical experience, during which he has adapted every possible improvement to real security, enables him to challenge competition with any house in London. A large assortment of all sizes on sale and made to order. A pair of extra strong wrought-iron fire-proof folding-doors with ventilating gates, made expressly for a banker's strong room, may be viewed at his manufactory. Strong wrought-iron doors for party walls, with wrought-iron rabitted frames, and secured by the BEST DETECTOR LOCKS in ENGLAND, 6 feet high by 2 feet 2 inches wide and upwards, price 10l. each, always on hand at LEADBEATER'S MANUFACTORY, 125, ALDERSGATE-STREET, LONDON.

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BUILDERS AND CONTRACTORS.

TARPAULINS for COVERING ROOFS during Repairs. SCAFFOLD CORD and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary awnings on sale or hire. Orders per post receive the most prompt attention.—WILLIAM PIGGOTT, 115, Fore Street, City, Manufacturer, by Appointment, to Her Majesty's Honourable Board of Ordnance.

TO GAS COMPANIES, Gas Fitters, and Gas Consumers.—N. DEFRIES, 10, Hampstead-road, 67, St. Martin's-lane, and 118, Argyle-street, Glasgow, having proved by eight years' experience his DRY METER to be unrivalled, begs to say, that nearly 20,000 are now in use, defying injurious Gas and are never affected by Heat, Damp, or Frost. They may be obtained on Hire of all the Gas Companies who supply Meters to their Customers.—Testimonials of great value may be obtained at either Factory.

TO DRAUGHTSMEN AND CIVIL ENGINEERS.

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.

These Pencils are prepared in various degrees of hardness and shades.

H H H H	for drawing on wood.	F F	light and shading.
H H H	for architectural use.	F	for general use.
H H	for engineering,	B	black for shading,
H	for sketching,	B B	ditto ditto.
H B	hard and black for drawing.	B B B	ditto ditto.
		B B B B	ditto ditto.
M	medium.		

Sold by all the principal Stationers in town or country.

TO BRICKMAKERS, POTTERS, AND LIMEBURNERS.

SWAIN'S PATENT KILN.—The attention of the above is drawn to a most valuable Invention in the manufacture of Bricks, Drain Tiles, and all kinds of Pottery, consisting of a Kiln, constructed on Scientific Principles, to burn with one-third the quantity of Coals at present required, and also in a third the usual time, thereby enabling the Manufacturer, from the great saving of both Fuel and Labour to supply to the Consumer at a considerably Reduced Price, and realise a Larger Profit himself.—Particulars may be obtained by application to Mr. CHARLES J. BAKER, 18, Lower Brook-street, Grosvenor-square, London; or to the Patentee, W. SWAIN, Brickmaker, Westonbury, near Leominster, Herefordshire, where a Kiln can be seen in operation.

ZINC! ZINC! ZINC!

TO BUILDERS and the Trade generally.

2-inch pipe,	4d. per foot run,	including fixing.	
2½	ditto	4½d.	ditto ditto.
3	ditto	5d.	ditto ditto.
3-inch eaves gutter,	5½d.	ditto	ditto.
4	ditto	6½d.	ditto ditto.
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Flats covered and Cisterns lined from 4d. to 6d. per foot. Super Cornice Gutters, 5d. to 8d.—Pipe and Gutter forwarded to any part of the country.—Messrs. F. and J. HARLAND, 3, Cumberland-place, Newington, opposite the Fishmongers' Almshouses.

ARCHITECTURAL ENRICHMENTS.

BIELEFELD'S IMPROVED PAPIER MACHE, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Honourable Commissioners of Board of Works, by the highest of the nobility and gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords, at Dublin Castle, at Drayton Manor, the new Conservative Club House, Grocers' Hall, &c., also at the British Museum and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier mâché ornaments, with a tariff, price 4l.—Works, 18, Wellington Street North, Strand.

JENNINGS, Patentee of the SHOP SHUTTER SHOE and FASTENER, which requires NO BAR; of the INDIA RUBBER TUBE COCK, PATENT JOINT, &c. &c.—29, Great Charlotte-street, Blackfriars'-road.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 96, REGENT-STREET and 121, CHANCERY-LANE. Patent sealed on the 4th day of February, 1843, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Raising and Lowering Shutters, without Machinery, and Two for Hinging and Sheathing the Edges of Wood Laths with Iron.—The Patentee having fixed up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantees the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, without the use of cog-wheel worm and screw gear, or any other complicated machinery employed by other makers.

BUNNETT and CORPE, ENGINEERS,
Patentees of
REVOLVING IRON AND WOOD SAFETY SHUTTERS,
and of
ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c., IN BRASS, COPPER, ZINC, &c.

Beg respectfully to solicit a comparison with the Revolving Shutters (either iron or wood) of any other Makers, whatever their pretensions. The extraordinary demand, arising from the universal satisfaction given, for BUNNETT and CORPE'S PATENT REVOLVING SHUTTERS (of which some thousands have been fixed in all parts of the Kingdom), having induced other parties to attempt the introduction, by the most absurd representations, of sundry old and discarded inventions as Improvements, B. and C. assure their Friends and the Public that, during their most extensive use, they have adopted every really practical improvement that skill and experience could suggest. A great reduction has also been made in the price, and they are now much CHEAPER, as well as BETTER, than any others.

The prices of the Patent Metallic Sash Bars, &c. have been revised and reduced; Shop Fronts, &c., completely fitted and fixed in a superior style, either plain or ornamental. Strong drawn moulded stallboard plates handsomely engraved. Shop Fronts, &c., completely glazed with best plate glass.

SKYLIGHTS manufactured to any design or extent in Wrought or Cast-iron, Copper, or Zinc.

B. and C. are also sole licencees for MARVIN and MOORE'S PATENT DIAGONAL GRATINGS, for areas at shop fronts, for shop, warehouse, and balcony floors, &c., which does not obstruct the light, yet admits of Ladies walking over or standing on the same.

IMPROVED PATENT BENCH AND FLOORING CRAMPS FOR BUILDERS,
Patentees of Self-Acting Effluvia Traps for Sewers, Drains, &c.

Manufacturers of Improved Steam Engines, Sawing and other machinery, especially adapted for builders' purposes, which may be seen in operation, daily, at the Works, Deptford, Kent.

Estimates given, and Contracts taken, in town or country. Patterns, and every particular may be obtained, on application at the Office of the Patentees, 26, Lombard-street, London; and at the Works, Deptford, Kent.

PATENT CONVEX REVOLVING IRON SHUTTERS, recently manufactured, under license, by the late firm of R. HOWARD and Co., Old-street.
HARCOURT QUINCEY, Patentee.

CLARK and Co., Manufacturers, beg to call the attention of Architects, Builders, and others, to the IMPORTANT IMPROVEMENTS in the above Shutters, and inspection invited at their Manufactory, 238, Wapping, or at their Agents, 456, New Oxford-street. The great importance of strength and stiffness in the laths of REVOLVING IRON SHUTTERS, in affording increased security, is obvious, and it is only necessary to point out the fact, that the patent convex laths are twelve times stronger than the ordinary flat laths, to insure their general adoption.

CLARK and Co. also invite attention to their greatly improved gearing, for raising and lowering the patent Shutters, which, possessing all the advantages of the endless screw (worm and wheel), cannot, even by wear, be liable to run down, and entirely avoids the necessity of using the ratchet-wheel, and is at once simple and thoroughly effective, and is SAFER and MORE DURABLE than any plan yet adopted for that purpose; thus rendering the Patent Revolving Shutters the SAFEST and MOST EFFECTIVE in use. These Shutters are fixed horizontally (either above or below the window or door), or vertically, for which position the greatly increased strength of the convex laths renders them peculiarly suitable; and one, as applied to a doorway, may be seen any day after Four o'clock at the Britannia Life Assurance Office, corner of Princes-street, Bank.

CLARK and Co. are the SOLE MANUFACTURERS of REVOLVING SHUTTERS, WITH CONVEX IRON LATHS. Engravings and Prospectuses forwarded on application. IMPROVED DRAWN METALLIC SASH BARS, ASTRIGALS, MOULDINGS, STALL-BOARD PLATES, &c.

Steam Engines always on hand. Sawing and Planing Machinery of every description made to order. Wrought-iron Box, and Cast-iron Girders for bridges, buildings, &c.—CLARK and Co., Engineers, 238, Wapping, or at 456, New Oxford-street, and 4, Moorgate-street, City.

DAY'S NEW PATENT UNIVERSAL SIMPLEX WINDGUARDS and VENTILATORS, guaranteed to Cure all Chimneys Smoking from Wind. They will not clog with soot—cannot be deranged by the sweeping machine, and from their producing a spontaneous current, are admirably adapted for ventilating apartments. Price, in galvanized, 25s. each; ditto, for kitchens, 40s. To slip on chimney-pots at 10s. 6d. and 12s. 6d.—WM. JEAKES, Proprietor and Manufacturer, 51, Great Russell-street, Bloomsbury, where it may be seen and tested.

By Her Majesty's Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S Patent Transparent Slide Valve VENTILATORS, supplied at a reduction of 40 per cent. from the original Tariff. Their extensive and successful application to public offices, bed-rooms, and the cure of smokey chimneys, prove their great utility. Coloured Glass of every tint at wholesale prices.—Designs and estimates for church and ornamental windows forwarded on application to EDWARD BAILLIE, Glass Painter, Stainer, and Emboser, 12a, Cumberland Market, Regent's-park, London, where specimens are to be seen.

DR. ARNOTT'S CHIMNEY VENTILATOR.
F. EDWARDS, Stove Maker to her Majesty, 20, Poland-street, Oxford-street, begs to call the attention of Architects, Builders, Gas-fitters and the Public, to the truly invaluable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description.

Prices from 7s. 6d. to 30s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS—NO CURE, NO PAY.

Twenty-five years' extensive experience in all the branches of a stove manufacturing business, and the cure of smoky chimneys of every description, fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the above equitable terms.

FIRE BRICKS.—WARD and HART, Honduras Wharf, Bankside, respectfully solicit the attention of Gas Companies, Builders, Engineers, Oven Builders, Shippers, and others to the fact that they have now completed their Stock of Stourbridge, Welsh, and Newcastle Fire Bricks, Lumps, and Tiles, of all sizes and shapes, which they are offering with every advantage to purchasers. Goods may be had from ships in the river at a great reduction. Fire Clays, Loams, Dutch Clinkers, Stock Bricks, Windsor Bricks, Oven Tiles, Pan, Plain, Ridge, and Paving ditto, Moulding Sand, House Sand (red and white), River Sand, Ballast, Lime, Cement, Malt and Corn-drying Kiln Tiles, now in such general use for malting, &c. &c., Chimney-pots, Drain Pipes, Tiles, &c. &c. Goods made to pattern at the shortest notice. Sanitary Pipes of every description. Country orders executed with dispatch. Country Builders will find this the cheapest market for the above.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms.—CHARLES LONG, No. 1, King-street, Baker-street, Portman-square.—Cash only.

WINDOW GLASS.—THOMAS MILLINGTON begs to inform the Trade and Consumers that he has a large Stock of Sheet-Glass on hand, which he will supply in 200-feet cases, delivered free in London for 42s. 6d. per case, or cut to size, 3d. per foot.—Address, 87, Bishopsgate-street without.

WINDOW-GLASS, VARNISH-COLOURS, and PLUMBERS' BRASS-WORK.
THOS. MILLINGTON, 87, Bishopsgate-street Without, London, begs to inform the Trade, and consumers generally, that he is supplying the above articles of the best materials and upon the lowest terms for cash.

CROWN, SHEET, and PLATE GLASS, in any quantity; VARNISH: fine Oak or Wainscot, 10s; Carriage, 12s per gallon; White Lead, 27s., and Colours and Brushes; Water Closets complete, 30s; Lifting Pumps and Cocks of every description.

Milk Pans; Propagating, Bee, and Cucumber Glasses; Paper-hangings from 1s. per piece upwards, of very superior description.

E. & W. H. JACKSON beg to call the attention of builders to the reduced prices of their PATENT PLATE GLASS, which, from its cheapness, is now superseding Crown in all respectable dwelling-houses. BRITISH and ROUGH PLATE, CROWN, SHEET, and ORNAMENTAL GLASS supplied at the lowest terms.—Lists of prices, and every information, can be had on application at their warehouse, 315, Oxford-street.

PATENT PLATE GLASS.—CLAUDET and HOUGHTON beg to announce that they have made A VERY LARGE REDUCTION in their prices of Patent Plate Glass. Lists of the reduced prices forwarded free on application.—PLATE, SHEET, CROWN, COLOURED, and ORNAMENTAL WINDOW-GLASS WAREHOUSE, 89, High Holborn.

GREAT REDUCTION IN THE PRICE OF PLATE-GLASS.
THE UNION PLATE-GLASS COMPANY.—Pocket-nook, St. Helen's; 99, Hatton-garden, London; No. 13, York-street, Mosley-street, Manchester; and 26, North John-street, Liverpool; inform Builders and the public generally, that they are now selling ordinary glazing sizes of plate glass from 2s. to 3s. per foot, and smaller plates suitable for cottages, greenhouses, and conservatories, at 6d. to 1s. per foot.—RICHARD YATES, Secretary.

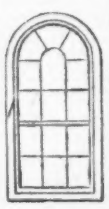
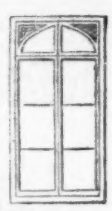
PLATE-GLASS DOMES.—R. W. SWINBURNE and CO. beg to inform the Public that they manufacture Domes of rough and obscured Plate Glass, in one piece, forming a very durable, handsome, and inexpensive roof-light, particularly suited for lobbies, passages, &c., and requiring no framing or other fitting. They manufacture also in plate glass pastry and butter slabs, in wooden frames; apothecaries' and colourmen's slabs, of all sizes; milk bowls and pantiles, very strong and durable.—Samples may be seen and prices known at their warehouse, Red Bull Wharf, Upper Thames-street.

HERRING'S PATENT SAFETY WINDOW.—No invention ever offered the advantages to builders and the public; it will positively add 5 to 10 per cent. to all houses having it; repay the cost every two years; abolish all danger to life and limb, cleaning and repairing. It is in full operation (four different ways), forms a complete ventilator and sun-blind; all simple, cheap, and effective.—Apply for licenses, and to inspect its real merits, to HERRING'S Patent Steam Bed-Feather Factory, 14, Kingsgate-street, London.

CHAS. WM. WATERLOW,
MANUFACTURER

of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames, always on sale. Glazed goods securely packed for the country. Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.

SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.

JOHNSON and PASK,
1, Amwell-street, Clerkenwell, near the New River Head,

Beg to inform the Trade, and the Building Public in general, that they continue to manufacture Sashes and Frames, Shop Fronts, Doors, and all other kinds of Joiners' work, on the lowest possible scale of prices. All kinds of Wainscot and Mahogany work done in the very best manner; French polished, and carefully packed for the country.—A full list of prices forwarded by return of post, to any part of the country.


TO ARCHITECTS, BUILDERS, AND BRICK-MAKERS.
PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Liquid Manure. BRICK-MAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to twelve-inch bore, kept for Hire.
BENJ. FOWLER, 63, Dorset-street, Fleet-street.

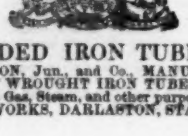
TO BUILDERS AND WHOLESALE PURCHASERS.
A BRIGHT METAL DRAWING-ROOM STOVE, Ormolu Ornaments, two Fires, Five Guineas; a Bright Metal Drawing-Room Stove, with Bronze Ornaments, Four Guineas.—At H. WATSON'S Stove, Range, and Fender Manufactory, 19, Wilson-street, Finsbury-square.

J. and J. HARTILL'S STOVE, FENDER, FIRE-IRON, and GENERAL FURNISHING IRONMONGERY WAREHOUSE, 89, WEST SMITHFIELD.

Register Stoves, 6d. per inch.
Elliptic Stoves, 2½d. per inch.
Cottage Range, with Oven and Boiler, 2 ft., 35s.
Self-acting Range, with Oven and Boiler, bright fittings, 2 ft. 6 in., 3l. 10s.
Drawing-Room Fenders 14s. each, usually sold at 1l. 1s.
All Goods Warranted.

J. and J. Hartill are Ironfounders, Fender and Fire-iron Manufacturers at Dudley. Established 1835.

NAILS and IRONMONGERY from BIRMINGHAM.—To BUILDERS, ARCHITECTS, &c.—Nails, Locks, and every description of Builders' Ironmongery, of the best quality, supplied at the lowest Birmingham prices, by FREDERICK BLYTH, Patent Cut Nail Manufacturer and General Factor, Edmund-street, Birmingham. Lists of prices forwarded upon application.



LAP WELDED IRON TUBES.—W. H. RICHARDSON, Jun., and Co., MANUFACTURERS of every description of WROUGHT IRON TUBES for Locomotive and Marine Boilers, Gas, Steam, and other purposes.
PATENT TUBE WORKS, DARLASTON, STAFFORDSHIRE

CAST-IRON PIPES, IRON WORK FOR OVENS, &c.
RAIN PIPES, &c.—F. A. TIDDEMAN, Purfleet Wharf, Earl-street, City, near Blackfriars-bridge, keeps a large stock of Rain Pipes, Heads, Shoes, Elbows, &c., half round and O. G. Gutters, Socket Pipes for Water or Gas, Flanch Pipes, Sash Weights, and other Castings; Iron Work for Baker's Ovens of every description, fitted complete, to be had in sets or in parts.—Prices equal to all competition. Contracts taken to any extent.

FLEXIBLE INDIA-RUBBER PIPES AND TUBING,
For Railway Companies, Brewers, Distillers, Fire Engines, Gas Companies, Gardening and Agricultural purposes, &c.
THE PATENT VULCANIZED INDIA-RUBBER HOSE-PIPES are made to stand hot liquor, and acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible) and as they require no application of oil or dressing, are particularly well adapted for locomotive engines, railway cranes, fire engines, pumps, gas, beer engines, gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length to order. Vulcanized India rubber garden hose fitted with brass-taps, copper branch and roses complete, ready to be attached to pumps, water-butts, or cisterns. Sole manufacturer, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.

N.B. Vulcanized India-rubber washers of all sizes for joints or hot-water and steam pipes, and vulcanized sheet rubber any thickness for all kinds of joints, and other purposes.

BURBIDGE and HEALY, 130, FLEET-STREET, LONDON, beg respectfully to inform the Building Public that they fit up COOKING ARRANGEMENTS for large Mansions, with patent appliances on scientific principles, which ensure greater economy and efficiency than hitherto attained. Also HOT WATER APPARATUS, upon improved and scientific principles, which they recommend for its peculiar safety for the Warming of Mansions, &c.

They fit up Laundries with Hot Water Apparatus, for Drying in a cleanly, expeditious, and safe manner. They also fit up BATHS with elegant arrangements, with every modern scientific improvement. Also Apparatus for the plentiful supply of Hot Water for Baths and general use of Mansions and large establishments.

OLD-ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE, Kitchen-range, and Stove-grate Manufactory, 18, Cross-street, Walworth.
JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Black and Bright Stoves, Kitchen Ranges, &c., &c.

Black Registers, from 6½d. per in. and upwards.
Bright ditto with Black and Bright Bars, 3l. 10s. and upwards.
Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright:—

3 ft.	3 ft. 6 in.	4 ft.
2l. 3s.	3l. 14s.	4l. s.

All articles made on the premises and warranted, and delivered free of expense within five miles of London. Bell-hanging in superior style, hung in secret, 9s. per pull.

TO BUILDERS and CARPENTERS.—Elliptic Stoves, double backs, 3d. per inch. Registers, 6½d., 7d., 8d. per inch.
Cottage Ranges, with Ovens and Boilers, 3 ft. 2 in., 40s.; 3 ft. 4 in. 42s.; 3 ft. 6 in., 44s.

Self-acting Ranges, with Circular Oven and Back Boiler, best Wrought Bars and Bright Fittings,
3 ft., £3. 3s. 3 ft. 6, £3. 12s. 6d. 4 ft., £4.

Best Patent Cut Clasp.

4½d.	5d.	7d.	10d.	1s. 2d.	1s. 8d. per 1,000.
3d.	4d.	6d.	8d.	10d.	20d.

Best Sheet Floor Brads 12s. per cwt.
Best Town Glue 38s. Do. Scotch, 52s. per cwt.

Best Patent Sash Line.

4s. 2d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.
1	2	3	4	5	6

At F. B. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, 35, Chiswell-street, Finsbury-square.

Lists of Prices had on application at the Warehouse, or by letter pre-paid, inclosing postage stamp.

N.B. Warehouse closes at Seven o'clock.

IRON FOUNDRY, 9, Brick-lane, Old-street, St. Luke's.—J. J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKER'S OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

IRON FOUNDRY,
168, DRURY-LANE, and CHARLES-STREET, DRURY-LANE.
JOSEPH GLOVER,

Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for every purpose, either structural or ornamental.

Wheel Pinion and Steam-Engine Patterns; Range Stove and Hot Plate Metal.

A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c.

A very superior description of Soot Door, particularly suitable for internal work, being perfectly secure, and not unsightly.

ESTIMATES given for IRON ROOFING and every description of Ironwork, complete to specification, and the work executed with every attention to quality and dispatch.

GLOVER'S FOUNDRY,
168, DRURY-LANE, and CHARLES-STREET.

TO ARCHITECTS, BUILDERS, &c.
COPPER-WIRE CORD.—R. S. NEWALL and Co.'s PATENT IMPROVED COPPER-WIRE CORD for WINDOW SASH LINES, Hot-houses, Lightning Conductors, Hanging Pictures, Clock Cord, and various other purposes for which hempen rope has hitherto been used. This new and valuable Patent is fast superseding the use of the hempen cord, and is strongly recommended to all builders and other parties connected with the above. The Wire Cord may be had wholesale, and specimens seen at the office of the Patentees, No. 163, Fenchurch street, W. T. ALLEN, Agent; or retail of G. and J. DEANE, 46, King William-street; E. PARKS, 140, Fleet-street; T. JONES, 62, Charing Cross, and GIBBONS and CO., 345, Oxford-street; also of all respectable Ironmongers.

LIGHTNING CONDUCTORS for BUILDINGS.—SMITH'S PATENT COPPER WIRE ROPE is being daily employed for the protection of CHURCHES and other buildings from the effects of thunder-storms. It possesses important advantages over other forms of conductors. References can be given where it has been applied for some time past to CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c. &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c.

SMITH and ENGLISH beg the attention of those engaged in building to their IMPROVED PATENT PANELLED and REVOLVING IRON SHUTTERS.—Also, the Patent Weather-tight Fastening and Cill Bar, for French Casements, which are so much admired for their security, simplicity, cheapness, and efficiency. Of the merits of their
Patent Double and Single Action Door Springs,
Improved Flooring Cramps,
Patent Wire Sash Lines, &c. &c.,
little need be said, as they are pretty generally known and appreciated.

Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and Ornamental Palisading, Gates, and Columns.—Also, Metal Sashes, Shop-fronts, Stall-board Plates, Brass, Butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.

Estimates given for every description of Metal-work.

SMITH and ENGLISH 63, Princes-street, Leicester-square, London.